ACADEMIC GUDILEINES FOR THE DEVELOPMENT OF TEXTUAL MATERIALS AT UPPER PRIMARY LEVEL

(ART,MATHEMATICS, PHYSICAL AND HEALTH EDUCATION, SANSKRIT, SCIENCE, SOCIAL SCIENCE & WORK EXPERIENCE)

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CONTENTS

S.NO.	CHAPTERS	PAGE NO.
1.	Preface	1
2.	Sec-I	3
I.	The Context	
II.	Need of the Guideline	
3.	Sec-II	6
	About the Guideline	
4.	Sec-III	7
	Guideline	
I.	The learners attending middle local NFE Programme	
II.	General objectives of NFE at middle level.	
III.	Area of Curriculum	
IV.	Bases of Curriculum	
V.	Creating learning Environment in NFE Centres.	
VI.	Approach	
5.	Sec-IV	15
	Attainment of competencies through different curricular Areas.	
	Appendix	128

PREFACE

Non-Formal Education is a strategy of achieving Universal Elementary Education with equivalence with formal education of comparable quality in the mandate of the National Policy of Education 1986- revised 1992. So far stress has been laid on primary stage i.e. equivalent to class IV/V of the formal schooling. As a result NFE curriculum, teaching learning materials, training packages for different level of functionaries have been developed and disseminated to various States and NGO's.

Decentralised curriculum and material development is the prime need of the hour. The need of flexibility in content based on local experience within the frame work of over all curriculum and minimum levels of learning (MLLs) has been strongly felt and the entire efforts in NFE as well as in the District Primary Education Programme are based on it.

It has been felt that the capacity needs to be built in States and Districts to undertake the tasks of developing curricular materials and also of developing training packages for NFE workers in accordance to local needs within the broad frame work of MLLs. In view of this, the need for a set of guidelines is being felt more and more.

Now, in the IX plan ,emphasis is on Upper Primary stage in order to reach the target group up to the age of 14. The ensuing 83 constitutional amendment Bill, seeking to make education of 6-14 years citizen as a Fundamental Right, makes it all more necessary that sincere efforts are made to develop decentralised curricular materials and training packages for Upper Primary Stage also.

This "Academic Guideline for the development of Textual Materials for NFE at Upper Primary Level in the areas of Art, Mathematics, Physical and Health Education, Sanskrit, Science, Social Science and Work Experience", is an attempt to provide know-how on how to develop such materials. It is believed that this guideline would facilitate the text book writer to develop lessons in a objective and in a scientific manner. This is an experimental edition. We would be most happy to receive feed back for its improvement and finalisation. The examples that are used in are only indicative and not exhaustive.

The Guideline for the development of training package will be worked out separately.

I must record my appreciation of the contribution made by the participants of the workshop, whose list is appended to this report. I must compliment Dr. Pushpa Mandal, my colleague, who worked hard as a coordinator of this project. She has made tremendous sincere effort in preparing and editing this report. She deserves all the credit for this report. Dr P. Dasgupta, our former senior colleague has provided support and guidance to Dr Mandal. She deserves our sincerest thanks

Last but not the least, I am thankful to Shri Anil Kumar, Shri Jaipal Singh and Shri Om Prakash Dhyani for all the secretarial help throughout

New Delhi
16th April, 1999.

N.K. Ambasht
Head of the Department

Academic Guideline for the Development of Textual Materials for NFE at Upper Primary Level in the areas of Science, Social Science, Sanskrit, Mathematics, Work Experience, Art, Health and Physical Education

Section-I

The Context

Formal Education along with the Non-Formal Education has been adopted as viable alternative approaches for the realization of UEE within the stipulated period. The national policy on education 1986 has emphasised on strengthening the NFE programme.

In the first phase of launching of the NFE programme, the scheme laid speical emphasis on Primary level NFE centres. As a result, during Eight Five Year Plans various academic programmes for Primary level NFE centres where succesffully launched, such as NFE curriculum, Teaching-Learning Materials, Training Packages for different level of NFE programme etc.

There is provision for 10-15 middle level centres in every project. There is emphasis on middle level centres in the Ninth Five Year Plan in order to reach the target group up to the age of 14. It neossiates development of curriculum, Teaching-Learning Materials and other academic programmes related to middle level NFE programme.

Moreover, there are a large number of children who have completed primary stage and are ready for entry into class sixth of the formal school. There are a considerable number of children who may like to pursue in the middle level NFE channel.

At this juncture the states do not have much experience with regard to effective implementation of middle level NFE programme. Full preparation is required for successful implementation of the programme. Before going into the task of preparing of teaching-learning materials there is urgent need for development of guidelines for curriculum developers and text-book writers. Today the thrust is on decentralised curriculum and material development. This calls for making sincere efforts to develop decentralised curriculum materials and training packages for Upper Primary stage also.

In view of this the Department has taken up a project titled "Academic Guidelines for the Development of Textual Material for NFE at Upper Primary level."

It may be pertinent to mention here that previously the Department has evolved guideline in the area of language e.g. Hindi and English. The present report provides the guideline in the areas of Science, Social Science, Mathematics and Work-Experience. In this context a five day workshop was organised at RIE Ajmare from 23.3.98 to 27.3.98, 23 participants from various field of education participated in the workshop.

In continuation of the above programme, another four-day workshop was organised to develop guidlines in the areas of Sanskrit, Art Education, Physical and Health Education. The venue was NIE Campus, NCERT. Thirteen participants from the said areas participated in the workshop. (List of participants -Annexure)

Need of the Guideline

Material development is highly technical activity. It requires adaption of planned and scientific procedure. Right from deciding the title of the lesson to selection of content, identification of vocabulary, nature of language to be used, style of presentation to selection of appropriate and accurate illustration, nature of exercise and activities all require a maticulas planning and measured steps. All the parameters has to have some basic framework. This is essential for ensuring quality control. Even the length, size and coverage of lesson has to be based on the general framework identified at appropriate level.

Guideline provides these essential parameters upon which the text-book writer or for that matter a curriculum planner depends.

In recent times there is special emphasis on developing quality material that generate increased participation of learner in teaching-learning process. Increasingly the need for developing a set of principles are being evolved that would fascilitate the text-book writer to develop lessons in an objective and in a scientific way.

With the growing emphasis on development of competency based participatory learning process, the need for a set of guidelines is being emphasised over and again. These set of principles are popularly known as "Guidelines for Development of Textual Materials."

Section-II

About the Guideline

This guideline provide comprehensive information about the following dimention.

- Learners attending middle level NFE.
- The objectives of NFE at middle level.
- Area and bases of NFE curriculum (source of content).
- Creating Learning Environment in NFE Centre.
  (Suggestive activities: Assembly Meeying, Weekly/monthly/ yearly activities, Allocation of time)
- Format of a lesson
- Approach
- Language
- Competencies through various subject areas.
- Specific instruction for authors.

The guideline has covered the following curricular areas:

- Mathematics
- History
- Geography   Social-Science
- Civics
- Science
- Work Experience
- Sanskrit
- Art Education
- Health and Physical Education

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Section-III

Guideline

1. The Learners attending middle level NFE: The bulk of the out of school children . middle level centres come from semi organised or even unorganised sectors of economy. They are engaged in some labour force, domestic activity, cattle grazing, carpet weaving, pottery, handicraft etc. Girls are mostly helping in household activities, looking after siblings. At this level they have developmental needs, they are more mature both mentally and physically. The wider environmental situations around them make them more alert, critical and self-conscious.

   For understanding the happenings around and the complaxities of social and economic situations, they are to be equipped with the basic concepts emerging from various areas of learning. e.g. Science, Agricultural activities, cultural heritage, social and contemporary problems etc. Frequent interactions with the environment should be provided so that they acquire basic skills of observation, recording analysis etc. These skills will help to develop scientific attitude towards life and deed in the learner.

2. The General objectives of Non-Formal Education at the middle stage are to:

   - Provide apportunities to the out of school children to continue their educational persuits.

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- Develop a set of competencies through basic learning areas of curriculum so as to equip them for a better living.
- Develop socio-economic understadding of the work in which the learners are engaged in and are likely to participate.
- Inculcate habits for healthy living in the learners.
- Enable learners to help in the preservation and conservation of natural resources.
- Inculcate in the learners socially desirable values, such as socialism, secularism, regard for cultural heritage and sense of belongingness with people living in other parts of the country.

Area of Curriculum

For evolving a set of guidelines for curriculum development, the basic learning area should emerge from the area of Science, agricultural activities, immediate environmental situations of the learners, cultural heritage, mathematical computation process etc. At the same time the base of all learning has to be functional use of language skill, as it is a basic tool for all daily transactions. Various curricular area should provide a wider scope for the learner to develop scientific temperament which will facilitate them to acquire basic scientific skills of truthful observation, recording, analysis, generalisation etc.

Lot of debate and deliberation has been taken place on various National and International forum about community participation to community ownership of Primary Education to achieve the goal of UEE. Selection of Syllabus for various curriculum areas is one of the important component of textual material where local professionals can be involved to a great extent. Thereby they will frame their own syllabus fulfiling the criteria of need based and situational curriculum.

Area of curriculum are to be woven in an around the local environment of the learner. Due focus has been given to develop basic life skills among the learner through the various subject areas.

The boys and girls of middle level must be equipped with some vocational traits prevailing in the village/area so that they would not be a liability or anti social element while they grow up. Keeping this in view, while developing curriculum for work experience programme for middle level NFE, above mentioned factor has been given due emphasis.

Some straight Jacket guidelines for language, arithmatic, sociology and science for the author of text book are:

Upto Class II	Local topics	100%
" " V	" "	50%
	National topics	30%
	International topics	20%
Upto Class VIII	Local topics	20%
	National "	40%
	International "	40%

Bases of Curriculum

In view the special needs of the NFE learner and curricular objectives, some of the important bases of curriculum are as follows:

- Level of attainment of learner at the entry point of the middle stage.
- Characteristics of the children attending the middle level NFE Course.
- The experiences related to various work situations of the learners.
- Socio-economic needs and life problems.
- Physical, economic and socio-cultural settings of specific geographical region.
- Immediate environmental situations of the learners.
- Minimum learning competencies which the learner is expected to attain at the completion of the course through various content areas.
- The special life skills (e.g. handling problems of different work situations, facing problems arising from accidental situations, seeking loans from the bank etc.) and competencies expected from experience - centered functional programmes of Non-Formal Education.

Keeping in view the various constraints of Non-Formal Education and specific needs of the NFE learners guidelines have been indicated below for effective learning at NFE Centre.

Creating Learning Environment in NFE Centre

In NFE Centre, the learners come after the day's hard work. They need some such programmes which may make them feel relaxed and comfortable. This requires organisation of some interesting

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and joyful activities which will not only attract them to the centre, but also ensure children's retention at the centre.

Depending upon the type of environment in which the centre is located and the nature of the divergent groups of learners, there will be variance in the nature and type of activities. Some activities are to be performed daily, while some may be organised occasionally. To be more precise, a variety of weekly, fortnightly and monthly activities will have to be organised. Some of the suggestive activities are :

- Prayer/Assembly Meeting.
- Cleanliness and Sanitary Work (May be Organised in groups and through peers).
- Working in the small garden area or greenery in and around the centre.
- Preparatory activities for the centre, like arranging tatpattis, durri, petromax, placing blackboard, charts and other materials.
- Activities related to work experience and art education.

Weekly Activities

- Sports/Games - in-door/out-door.
- Craft Work.
- Visit to a Craft centre/museum/near by forest/poultry farm/dairy/agricultural field etc.
- Music/recitation/drawing/storytelling/writing/discussion about the significant activities/news of the village during the week.

Fortnightly/Monthly Activities

- Lecture and demonstration on various developmental activities by the extension workers.
- Cultural and entertainment programmes.
- Cleanliness and other social activities in the community.
- Film/slide show followed by discussion. **(If possible)**
- Visit to Mela/Bazar/Exhibition/Sarpanch's Office/Block Development Office/Co-operative Centre/Railway Station/Public Health Centre/Mountain/River Side, Stroll/near by Temple/Mosque etc.

- Organising Bal-Mela (14th November).
- Participating time to time in various relief work.
- Helping farmers in the field and other organisations.
- Participating in various activities being organised in near by formal school, like debate/drawing competition etc.
- One act play etc.
- Repair of the NFE Centre and its decoration.
- Tree planning

However, the number and type of activities will depend upon the resources and cooperation available from the community and other resource organisations engaged in developmental activities.

Scheme of Studies And Allocation Of Time For Different Areas Of Curriculum

The entire course for the middle level is to be covered within three years. That comes out nearly 240 working days per year. The details have been worked out below:

One Year	= 365 days
Sundays	= 52 days
Holidays	= 18 days
For Training	= 30 days
Meetings (with PCs and Others)	= 20 days
Total	= 120 days

i.e. 365 - 120 = 245 days

5 days for meetings due to emerging situations

Total working days is 240 days in a year.

Instructional hours in a Year =

240 days x 3 hrs. (per day)

= 720 hrs. (per year).

The total instructional hours in three years come about 2160 hrs. (3 hrs. per day, suggestive). That is about 90 hrs. less from formal education instructional hrs. So the entire course is to be within the stipulated hrs. Flexibility has to be maintained with regard to distribution of instructional hours.

A Suggestive time table has been given as guidelines :

Time duration for each
area of curriculum = 40 mts.

Centre timings - 3 hrs. or as per the convenience and
need of the learners.

Class	1st	2nd	3rd	4th
6	Activity	Activity	Activity	Activity
	S.Science Mon., Tue., Wednesday	Music/Art/Phy.Edu. Mon., Tue., Wednesday	Math Mon., Tue., Wednesday	Hindi Mon., Tue., Wed., Thus.
	English/Sanskrit/Urdu Thus., Fri., Saturday	WK Exp./Voc.Edu. Thus., Fri., Saturday	Science Thus., Fri., Saturday	Math Friday, Saturday
7	Math Mon., Tue., Wednesday	Hindi Mon., Tue., Wed., Thus.	Music/Art/Phy.Edu. Mon., Tue., Wednesday	S.Science Mon., Tue., Wednesday
	Science Thus., Fri., Saturday	Math Fri., Saturday	WK-Exp./Voc.Edu. Thus., Fri., Saturday	English/Sanskrit/Urdu Thus., Fri., Saturday
8.	Hindi Mon., Tue., Wed., Thus.	Math Mon., Tue., Wednesday	S.Science Mon., Tue., Wednesday	Music/Art/Phy. Education Mon., Tue., Wednesday
	Math Fri., Sat.	Science Thus., Fri., Saturday	Eng./Sanskrit/Urdu Thus., Fri., Saturday	WK-Exp./Voc. Edu. Thus., Fri., Saturday

Note: (i) First twenty minutes of the day may be devoted for Prayer/Assembly and Massdrill/P.T. etc.

(ii) Subjects like domestic craft may replace WK-Exp./Vocational Education for girl child.

The timings for dealing with various themes and activities may be planned by the two centre teachers as per their need. However, it may be planned in a way that the language becomes the core area around which other learning areas of the curriculum are integrally linked.

Approach

In Non-Formal Education the approach, as mentioned earlier learning has to be related to the experiences in real life situations of the learner through interaction with the environment. Whatever differencess might exist with regard to life situations in different localities, it is expected that through the programme of Non-Formal Education, the learners will acquire some basic abilities/competencies to perform responsibilities efficiently as citizens and as successful individual. These are the critical or basic competencies that the learner are expected to reflect in their behaviour.

The various learning areas adopted by the National Curricular framework for middle level elementary education are indicated below :

1. Three Languages
2. Mathematics
3. Science
4. Social Science
5. Work Experience
6. Art Education
7. Health and Physical Education

Though ideally, the various competencies have been envisaged in an integrated manner for NFE curricular approach, they have to be classified under various subject areas for the task of convenience, clustring & clubing of competencies will follow while adopting themes for various subject areas, keeping in view the basic competencies.

Section-IV

Attainment of Competencies through different Curricular Areas

In this section different competencies have been presented. They are classified gradewise. To facilitate the author, course guideline on various subjects (History, Civics, Geography) for developing a particular competency, alongwith a few model lessons etc. have also been provided.

Keeping in view the requirement of a particular subject area, the remaining aspects of textual material, such as, format of a lesson, process of deriving content etc. have been ingrained alongwith the specific instructionsfor Authors.

The detailed guidelines for developing textual material in the areas of Mathematics, Civics, History, Geography, Science and work experience, Sanskrit, Art, Health and Physical Education have been spelt out in the following pages.

Guideline for Textual Material in the area of Mathematics

INTRODUCTION :-

Generally it is believed that Mathematics is a hard and dry subject devoied of any contact with life. But this mistaken belief can be easily dispelled if right approach of teaching-learning strategies are adopted in the class room situation. Even in its purest and most abstract state it is just the ideal handling of problems of life. It is for the instructor and the textbook writer to relate the various concepts and processes of Mathematics to life situations of the learners. It will then be a truly functional learning for the learners. It should not be difficult to accomplish it if conscious effort in the same is made .

Keeping in view the difficult constraints/context of NFE and above mentioned points efforts has been made to provide suggestions in the guideline to develop textbook in mathematics in a way so that it could become really effective tool of teaching and learning Mathematics. While developing model lesson, Examples from daily life situation has been drawn to explain new concepts.

This portion of the report consists of :

- Specific objective of teaching Mathematics
- Guideline for preparing textual material in Mathematics of Upper Primary Level of NFE.

- Examplar lesson of Highest Common Factor.
- Gradewise competency in the area of Mathematics.

Guideline on 'How to identify objectives and competencies from existing textual material

There are text books in the States for a particular level based on graded competencies. Some guidelines to identify the competencies and objectives ar as follow :-

- The specific objectives and major competencies of a curricular content are often reflected in the foreword of a text book. Go through the foreword of a textbook carefully and underline the competencies.
- The objectives and competencies of a particular lesson can be identified from the thematic content and from the different types of exercise of that lesson. The expected behavioural changes among the learners are often hidden in the message of the content. Go through the content carefully. List out the competencies in logical sequence.
- Examine the various activities suggested in the exercise which the children are made to do by the teacher during transactional process. These are generally focused towards achieving the desired competencies. As such, competencies may be identified from the various activities performed by the child during teaching learning process.
- Study the instructions given for the learner in the text book or from the teacher's guide. Keeping in view the various objectives and competencies, suitable instruction are given to achieve those competencies. Various teaching-learning strategies suggested in the teacher's guide are adopted, keeping in view the objectives competencies to be achieved by the child. The teacher is expected to highlight them during transactional process. List out of the expected behavioural changes reflected through various activities.

Specific objectives

Through mathematics the learner will be able to :

- Transact efficiently in daily life activities needing mathematical operations.
- Decide the best option for solving problems he/she faces in his/her daily life requiring mathematical skills.
- Identify and relate the geometrical shapes of various objects to his/her daily life situations and draw comparison between them in terms of shapes and sizes.
- Apply the knowledge of the mathematical calculations, concept in any work situation.

Notice that the learning of mathematical skills is not an end in itself but it is a means to an end of inculcating the capacity to solve various problems that a learner comes across in daily life. So the content would genrate from daily life situations rather than from the demands of skill required for higher level of educational structure.

Guidelines for preparing textual materials for upper primary levels at NFE.

1. **Objectives**

Global objectives of teaching and learning mathematical competencies at a particular level should be explicity reflected in the forward note of text-book. These should be written separately for children and teachers.

- Specific objectives may be given in terms of competencies in the beginning of every learning areas.
- These specific objective should be given in graded and sequential order.
- Objectives should be written in simple language so that it may provoke self - learning.

2. **Presentation of content**

Revision Exercise for reinforcing the previous knowledge relevant to the particular learning area should be given in the begining of that learning area.

- The content should focus on the development of particular competencies.
- The vocabulary of mathematics used in daily life situation like measuring, calculating, profit, loss etc. should be explained through suitable examples from real life situation of the learner.
- Mathematical operation should be clearly explained by sufficient number of examples.
- The content should provke the logical thinking and inductive and deductive reasoning of the child.
- Activities should be included for learners based on their work experience and environment for acquiring the competencies at the level of mastery.

- Content and examples should reflect national, social problems, community oriented problems and Civic responsibilities like - savings, loans, planning etc.
- Content and examples should be based on equality of sexes, removal of social barrier, observance of small family norms, population and value oriented problems like labour problem, friendliness industriousness etc.

Relevence of the content -

- The content should be based on interest and needs of the learner.
- It should be according to the maturity level, profile and entry level of learner.
- It should be based on the competencies of the teacher (NFE) who are expected to transact the material in limited duration of 2 to 3 hours daily routine.
- The material should be relevant to the multigrade teaching approach.
- It should be based on local specifics and culture of the learner.
- To make the content meaningful, examples and illustrations may be drawn from physical and immediate environmental situation of the learner.
- While developing teaching-learning material, the author may always keep in view all the constraints of NFE.

Language of the content

- The language used in textual material should be clear in terms of competencies, learner performance, skills, habits etc.
- It should be made attractive to the children by providing sufficient number of illustrations, play way activities and games.
- Language difficulty in understanding problems should be carefully avoided.

Organisation of content

The following approaches should be adopted in organising the content meaningfully.

- Competency based approach.
- Integrated approach.
- Environment based approach
- It should be done as and when possible with other inter and intra-curricular areas.
- Activity oriented - play, games, project-activities.

Visit to the post office, bank etc. should be provided adequately.

As far as possible the mathematical concepts should be framed by using environmental situations.

Concentric approach

- Continuum should be maintained while presenting different learning activities to ensure mastery of the competencies.

Spiral Approachh

As and when required the competencies within the mathematical areas should be presented by increasing the depth of content grdually.

Flexibility of the material

The common core content and core competencies must be covered in the textual material in all places. However, flexibility should be allowed based on local syllabus, specific to the particular area.

As and when required a foot note for teacher should be given for "How to teach the particular competency"

Forms of textual material (TM.) :

- The following forms of textual material may be developed for effective teaching of mathematics.
- Textual text book.
- Small - learning sheets for hard spots supplementry books (mathematics) recreation methods for arousing interest in mathematics.

- Activity book containing playway activities and games related to various Mathematical areas.
- Work book- it can be a part of the text or part of the activity book.
- Non-print material like toys, games, puppets, audiotape, (if possible) video tape (if possible), flash card, number cards, charts tables, models etc. developed locally from materials in and around the environment.

Evaluation

Learning of all competencies may be evaluated at the end of teaching of one unit. Sufficient number of test items should be given in the text for the assesment of the performance and dignose the causes of weekness in learning of the desired competencies. the diagnosis should invariably be followed by remedial inputs to overcome the hard spots in learning.

- The evaluation should be done to help the child and for acquiring the next competencies on the learning scale/ladder.
- Technique of evaluation should be given in the foot not of textbook.
- Variety of material - oral, written, practical and situational may be given as evaluation tools.
- Clear instruction about the type of question and exercises should be given to help the learner and the teacher.
- Separate short answer sheets, diagonestic test items and practical activities etc. should be prepared to ensure the learning of competency at the level of mastery.
- Test items fcf weekly, forthinghtly and monthly should be prepared in textual material or be given separately in training packages.

Physical look of the textual material

- Lay out should be attractive.
- Type size should be according to the age level and mental level of the learner.
- Illustrations should be attractive and colourful.
- Importnat formula and concepts should be highlighted by presenting these in boxes.
- Book should be Quarter of demi size.

An attempt was made to identify certain areas where revision is required. These are presented below:

REVISION : Natural Number

For the Instructor

Give the concept of natural numbers
by counting the things from the
surrounding of the child.

Natural Numbers : Natural numbers are 1,2,3,4,5 ------ -----

Prime and Composite numbers :

We classify the natural numbers into the following three categories :

(I) Numbers having exactly two distinct factors, number 1 and the number itself, these are called Prime numbers.

Example : 2,3,5,7,11 -----------

(II) Numbers having more than two factors are called Composite numbers.

EXample : 4,6,9,12,15 ---------------

(III) The natural number 1 is the only number which has exactly one factor. It is neither prime nor Composite.

Further,effort was made to detail out some examplar lessons on Highest Common Factor. These are presented in the following pages.

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---- EXAMPLAR LESSON ON

Highest Common Factor (H.C.F.)
Daily life problems involving HCF of numbers.

To the instructor

The concept of HCF is used in daily life to find out the largest units for measuring any set of vlumes, objects, areas etc such as largest container to measure given volumes without remainder The purpose is to make the child understand the process to solve such daily life problems eg the biggest container required to measure 60,48,24 litres of milk without remainder would be 2 of vol. 12 litres. HCF is used to find the such solutions.

What you have to do

Look at the problems given in the lesson on the right side. Then-

- Explain the Principle of H.C.F. by involving the Children in the given activity.
- Proceed on with the problems explained in the examplar lesson.

1. We know that :

1,2,3,4,6,8,12,24 are factors of 24
1,2,3,4,6,9,12,18,36 are factors of 36
1,2,3,4,6,8,12,16,24,48 are factors of 48

- Look at the above factors, you will find that 1,2,3,4,6 & 12 are common factors of 24,36 and 48.
- Among 2,3,4,6 and 12, 12 is the highest and is common to all the three numbers 24,36 and 48.
- Therefore the highest common factors (H.C.F.) of 24, 36 and 48 is 12.

About the lesson :

- This lesson deals with finding out of H.C.F. of two or more given numbers and solving day to day life problems involving H.C.F. work out the activity mentioned below.
- The learner's are expected :-
  - To find out H.C.F. of two or more given numbers of two or more digits.
  - To solve simple day to day problems involving H.C.F.

Activity :- Arrange three containers;

- fill them with 3,6 and 9 liters of water.
- find out a can of maximum capacity with which you can distribute the water of the three containers with no fraction of water left in the container;
- children ! you can have more than one container which can do this work;
- It may be 1 ltr or 3 ltrs of capacity;
- of these two containers, you can see that 3 ltrs capacity of container is of the maximum capacity by which you can distribute the water without left over.
- Therefore, as you can see in this activity 1 and 3 are the common (container) factor of 3, 6 & 9 of which 3 is the highest common factor/container of maximum capacity.
- So, the 3 ltr container is the best choice to do the given work.
- by a 3 ltr container, you can distribute 3, 6, and 9 ltrs of water evenly, without left over.

Hence, your problem is solved.

Look here?

$\boxed{1,}$ $\boxed{3}$ --- factors of 3
$\boxed{1,}$ 2, $\boxed{3}$ $\boxed{6}$ --- factors of 6
$\boxed{1,}$ $\boxed{3}$ $\boxed{}$ $\boxed{9}$ --- factors of 9
among 1 & 3, 3 is the highest common factor of 3,6 & 9

Example

Find out the H.C.F. of 60, 18 and 42

Factors of 60 are $\boxed{1},\boxed{2},\boxed{3},4,5,\boxed{6},10,12,15,30,60$

Factors of 18 are $\boxed{1,2,3},\boxed{6},9,18$

Factors of 42 are $\boxed{1,2,3,6},7,14,21,42$

Common factors of 60,18 & 42 are 1,2,3,6.

Among them the highest is 6

So the Highest Common Factor (H.C.F.) is 6

Exercise

Find out the H.C.F. of following numbers by writing their factors

16 30 315

215 120

70 210

Prime Factorisation

The above method of finding H.C.F. takes long time and Labour. Therefore, you can find H.C.F. by using prime Factorisation. Look at the following example :-

24 = 2 x 2 x 2 x 3
36 = 2 x 2 x 3 x 3
48 = 2 x 2 x 2 x 2 x 3

By looking the prime factorisation of 24, 36 and 48 you can directly find out the HCF by writing the common factors in all.

The Highest Common Factor is 2x2x3 i.e. 12

SO 12 is the HCF for 24, 36, 48

Example :-

Find out the HCF of 70, 210, 315 by prime factorisation method.

2	70
5	35
	7

2	210
3	105
5	35
	7

3	315
3	105
5	35
	7

315 = 3 x 3 x 5 x 7

210 = 2 x 3 x 5 x 7

70 = 2 x 5 x 7

The highest common factor is 5x7 = 35

Therefore the HCF of 315, 210 & 70 is 35

Exercise

Find out the H.C.F. of

(i) 144, 180 & 192

(ii) 81 & 117

For the Instructor

- Repeat the exercise to find out by listing two or three numbers.
- Write down prime factors of two numbers.
- Write down the highest factor by observing the common factors.
- Give practice exercises for finding the common factors by prime factorisation method.
- Enable the children to solve daily life problems which are familiar to him.

Coprime Numbers :

1 is factor of every number, this gives rise to the fact that when no prime factor is common to two given numbers, '1' will be always a common factor.

Example :

15, 16

15 = $\boxed{1}$ x 3 x 5

16 = $\boxed{1}$ x 2 x 2 x 2 x 2

Therefore the H.C.F. of 15 & 16 is 1.

Two numbers whose H.C.F. is 1 or they have 1 as their only common factor are called Coprime numbers as 15 and 16.

Exercise

Find out the H.C.F. of the following number by prime factorisation :

17, 18 and 16, 47, 39, 49 and show that in pair they are Co-prime

---

For the Instructor (Contd)

- Help the child to understand the instruction given in the problems.
- Enable the children to convert the problems into activity when-ever possible.

Finding out of H.C.F. By Division method

- Consider the [illegible] numbers 12 and 24
- Divide the bigger number by smaller number

```
12)‾24‾( 2
   -24
   ───
    0
```

- The remainder is Zero
- Hence the H.C.F. of 12 and 24 is 12

Find out the H.C.F. of 48 & 60

- Divide the bigger number by smaller number

```
48)‾60‾‾(
    48
 ──────────
  12) 48  ( 4
      48
     ─────
      0
     ─────
```

- Divide the number 48 by the remainder 12
- The remainder is Zero

Hence the H.C.F. of 60 & 48 is 12

Keep in Mind :-

- Divisibility Values of 2,3, and 5 which can be helpful in Finding prime factors for the given numbers.
- Allow the children for discussion in dinding out prime factors for the given numbers.

In this method :-

- The bigger number is first divided by the smaller number.
- Then the division are divided in successive by remainders got.
- This division is carried on till we get the remainder Zero.
- The division is normally done as shown above.

Details from Math book of NCERT Class VI
Page 60, 61, 62

H.C.F. of two or more numbers :-

Example :- Find out H.C.F. of 570, 266 and 665

First find out HCF of any two numbers say 570 & 266 by division method

```
266) 570 ( 2
      532
      ----
       38) 266 ( 7
           266
           ---
             0
```

HCF of 266 and 570 is 38

- Then find out the HCF of 38 and 665

```
38) 665 ( 17
     38
     ---
     285
     266
   -----------
      19 )  38   ( 2
            38
            --
             0
            --
```

HCF of 38 & 665 = 19

- Hence the HCF of 570, 266 and 665 is 19.

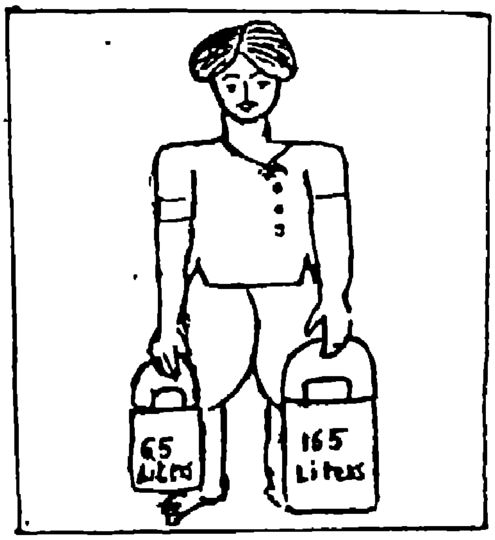
For finding HCF of three numbers by division method, first find out the HCF of any numbers and then find out the HCF of the two number and the 3rd number. It will give you the HCF of 3 numbers

Lesson

Highest Common Factor (HCF)

NFE Phase II
Stage I
Mathematics
Area : Ability to use Numbers

Milk Vendor's Problem ?



Help him to Choose a Can of maximum capacity with ch he can distribute the milk in the two Cans integral number of times. (i.e. with no fraction of milk left in them)

TO FIND OUT THE SOLUTION OF THE SAID PROBLEM GO THROUGH THE LESSON CAREFULLY.

YOU WILL FIND THE SOLUTION IN NEXT PAGE OF THE LESSON.

Daily life problems involving HCF of numbers

Example:-

Consider the problem of the Milk vendor given in illustration.

The milk vendor possesses two Cans containing 60 and 165 litres of milk respectively. Find a Can of maximum capacity which Can measure the milk in the two Cans integral number of times (without leaving any fraction of milk in the Cans).

Find the HCF of the two numbers that itself will be solution of the milk vendor (using prime factorisation or division method).

A. By Prime Factorisation Method:-

$60 = 2 \times 2 \times \boxed{3 \times 5}$

$165 = \boxed{3 \times 5} \times 11$

The common factors $3 \times 5 = 15$

The highest of the common factor is 15

HCF = 15

The Can that can measure the milk of the Can integral number of times (with no fraction of milk left over in the Cans) = 15 litre Can

B. By division Method

Dividing the bigger number 165 by 60 and there by the second number by the remainder if any and repeating the same process successively. The HCF thus arrived at, is the solution.

```
60) 165 ( 2
    120
    ----
     45 ) 60 ( 1
          45
          ----
          15 ) 45 ( 3
               45
               ----
                0
```

HCF = 15

Hence the biggest Can which measures the milk of the two Cans having capacity of milk 60 and 165 litres integral number of times (i.e. without leaving any milk in the Cans) is the 15 liters Can.

EXERCISE

1) Find the HCF of the following set of numbers-

   1) 16, 30 - By prime factorisation method

   ii) 45, 120 - By division method

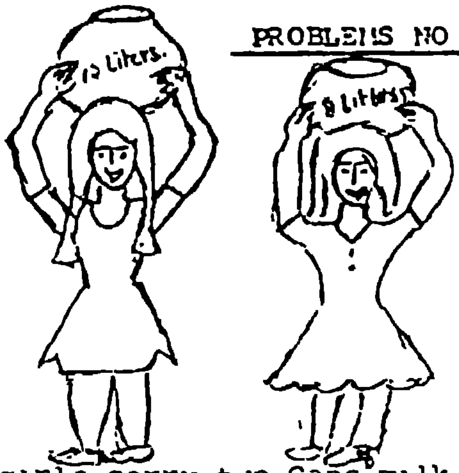
   iii) 70, 210, 315 - By division method

2) What is the greatest number that divides 480, 450 & 210 exactly.
(Hint : Find out HCF of the number)

3) There is a rectangular floor of size 12m x 8m, find out the size of biggest squares to cover the floor completely

4) There are three Cans containing 240 l ts. 60 lts. and 150 lts. of milks repeatively. Find the maximum size of vessel which will measure the milk completely.

PROBLEMS NO :- 1

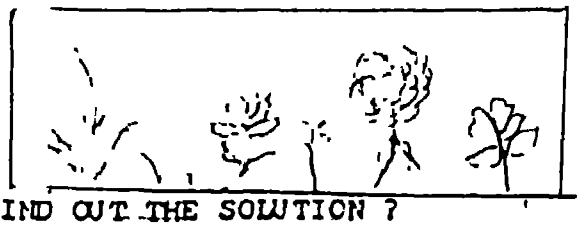


1) Two girls carry two Cans of milk of capacity 8 and 12 litres respectively and they want two find out the highest common container which Can measure the milk in the two Cans, without leaving any fraction of milk in them.

How to find out solution of the girls ?

PROBLEMS NO : 2

2) You have a kitchen garden of 12 mts long and 8 mts. wide. Can you measure both length and breadth with a biggest common stick without leaving any part of them



FIND OUT THE SOLUTION ?

LIST OF COMPETENCIES IN THE AREA OF MATHEMATICS GRADE WISE

It is essential that the authors are clear about the specific competencies that provide basis of material development, adoption of suitable teaching-learning process and evaluation activities.

The competencies in mathematics have been spelt out grade wise in the following pages.

Minimum Levels of Learning at Upper Primary Stage- NFE
Mathematics

Area	Class VI (Stage I) 1st Year	Class VII (Stage II) 2nd Yr.	Class VIII (Stage III) 3rd Yr.
1 Ability to use Numbers	1.6.1 Recognises family of Natural numbers and whole numbers 1.6.2 Find out HCF and Lcm by prime factorisation of numbers LCM upto 2 digits & HCF upto 3 digits. 1.6.3 Understands the property that the product of two numbers is equal to the product of their HCF and LCM 1.6.4 Reconises numbers divisible by 4,6,8,9 and 11 through patterns 1.6.5 Finds out HCF of more than two numbers by division method and solves problems of day to day life. 1.6.6 Reconises the need for integers. 1.6.7 Demonstrates integers and operations (Addition and Subtraction with them on number line. 1.6.8 Demonstrates through patterns the properties of addition substraction miltiplication and division. 1.6.9 Simplifies the expressions involving of brackets. 1.6.10 Demonstrates powers of intergers through patterns.	1.7.1 Recognises rational numbers as p/q where $q \neq 0$ 1.7.2 Reconises positive and negative rational numbers. 1.7.3 Finds out consecutive integers between which a rational numbers lies and establishes order relations. 1.7.4 Adds and substracts given rational of numbers. 1.7.5 Multiplies and divides the given rational numbers. 1.7.6 Reconises division by a rational numbers as a multiplication of its reciprocal. 1.7.7 Finds out decimal value of rational numbers-terminaling or recurring. 1.7.8 Converts decimals into rational numbers. 1.7.9 Solves problems involving operation on decimal and rational number. 1.7.10 Demonstrates the meaning of ex-ponents and negative exponents. 1.7.11 Uses scientific notation in writing of large numbers and small numbers	1.8.1 Recognises squares and square roots of number and their relationship. 1.8.2 Recognises the notation of square roots and uses it. 1.8.3 Finds the square roots of perfect squares by factors. 1.8.4 Finds the square roots of positive integers and decimal (perfect squares) by division method. 1.8.5 Finds the square roots of numbers which are not perfect squares (upto three or four places of decimal) and recognises real numbers. 1.8.6 Solving problems of daily life situations based on finding of square roots. 1.8.7 Finds square roots in solving problems with the help a square root-table. Recognises cubes and cube roots of perfect cubes. 1.8.8 Finds out cubes and cube roots of a given number (perfect cubes) by factorisation.

Minimum Levels of Learning at Upper Primary Stage- [illegible]
Mathematics

Area	Class VI -(Stage I) 1st Year	Class VII (StageII) 2nd Yr.	Class VIII (Stage III) 3rd Year
II Ability to solve problems commercial Mathematics	2.6.1 Solves problems of daily life situation based on ratio and proportion. 2.6.2 Solves simple direct problems using unitary method 2.6.3 Solves problems of profit & loss of daily life situation. 2.6.4 Solves problems based on simple interest (by unitary method) 2.6.5 Solves problems of simple interest by using formula. Note: Without use of algebra.	2.7.1 Solves problems of direct and inverse proportions. 2.7.2 Calculates discount on the given percentage rate. 2.7.3 Solves problems of daily life of time and work. 2.7.4 Solves problem based on time and distance of daily life situation.	2.8.1 Gives the meaning of compound interest. 2.8.2 Calculates Compound Interest by unitary method(upto 3 years). 2.8.3 Calculates Compound Interest with the help of formula(upto 3 years) 2.8.4 Calculates the depreciation value of articles with the help of Compound Interest formula. 2.8.5 Calculate the growth value of article with the help of Compound Interest formula. 2.8.6 Solves simple problems on shares and dividends. 2.8.7 Reads the Compound Interest tables. 2.8.8 Calculates Compound Interest quarterly and half yearly. 2.8.9 Calculates the growth of population applying Compound Interest formula and visualises the increase in population.
III Ability to use geometrical concepts	3.6.1 Demonstrates the existence of point, line, line segmet./ 3.6.2 Constructs line and line segments with the help ruler and compass. 3.6.3 Constructs angles with the help of ruler and compass. (30°, 45°, 60°, 75° & 90°)	3.7.1 Identifies different types of triangles. 3.7.2 Names different parts of triangles. 3.7.3 Demonstrates that the sume of three angles of a triangles is equal to 180°.	3.8.1 Demonstrates the following properties of parallel lines (i) Two lines parallel to the same line are parallel. (ii) Two lines perpendicular to the same line are parallel to each other.

...3.-

Minimum Levels of Learning at Upper Primary Stage- NFL
Mathematics

Area	Class VI (Stage I) 1st Year	Class VII (StageII) 2nd Yr.	Class VIII (Stage III) 3rd Year
		3.7.11 Constructs the following using ruler and compass (i) Bisects a given line (ii) Constructs an angle equal to a given angle. (iii) Bisects a given angle. (iv) Draw the perpendicular to given line from a point lying on it. (v) Draw a line parallel to a given line.	
		3.7.12 Recognises congruent figu from the given geometrical configuration	
		3.7.13 Demonstrates following rul of congruency of triangles:- (i) SSS Congruency rule (ii) SAS Congruency rule (iii) ASA Congruency rule (iv) RHS congruency rule	
		3.7.14 Applies the above rules in solving simple problems.	
IV Ability to solve problems on area and volumes of different plane and solid figures.	4.6.1 Demonstrates the following formula:- (i) Area of a rectangle=lengthX Breadth (ii) Area of a square=Side^2 (iii)Perimeter of a rectangle is 2(l+b) (iv) Perimeter of a square is 4 X side	4.7.1 Finds the surface area of a cube and cuboid	4.8.1 Finds the area of a parallelogram triangle, rhambus and Trapezium
		4.7.2 Locates the faces, edges and verticles of a cube and cuboid.	4.8.2 Finds the area of a triangle using Hero's Formula
		4.7.3 Finds the volume of a cube and cuboid by using formulae in Standare Units.	4.8.3 Finds the area of a quadrilateral use,

...5A

Minimum Levels of Learning at Upper Primary Stage- NFE
Mathematics

Area	Class VI (Stage I) 1st Year	Class VII (StageII) 2nd Yr.	Class VIII (Stage III) 3rd Year
	4.6.2 Solves daily life problems by using the formulae as in 4-6-1 4.6.3 Finds the area of rectangular paths interior or exterior or middle paths of a rectangle.		4.8.4 Finds the area of irregular rectilinear figures by using field method and triangulation method. 4.8.5 Finds the circumference and area of a circle using the formulae 4.8.6 Finds the area of a sector using the formulae.* 4.8.7 Finds the length of an arc of using formulae.* 4.8.8 Solves simple problems involving area. 4.8.9 Finds the surface area and volume of right circular cylinder, right circular cone and a sphere using formulae. 4.8.10 Solves daily life problems based on the above competency 4.8.8
V Ability to use Algebra in Solving Mathematical Problems	5.6.1 Denotes the unknown numbers by using letters. 5.6.2 Writes mathematical expressions in symbolic form by using letters, numbers and signs of fundamental opeations and powers. 5.6.3 Identifies the terms of expressions, coeffecients of a term like and unlike terms. 5.6.4 Identifies, mononial binomial and trinomial expressions	5.7.1 Multiplies the given algebraic expression [illegible] 5.7.2 Establishes the following identifies:- (i) $(a+b)^2 = a^2 + 2ab + b^2$ (ii) $(a-b)^2 = a^2 - 2ab + b^2$ (iii) $(a+b)(a-b) = a^2 - b^2$ 5.7.3 Applies the above identies in solving problems. 5.7.4 Factorises the expression using the above identies.	5.8.1 Establishes the following identies:- 1) $(x+a)(x+b) = x^2+(a+b)x+ab$ 2) $(a+b)^3 = a^3+b^3+3ab(a+b)$ 3) $(a-b)^3 = a^3-b^3-3ab(a-b)$ 4) $a^3+b^3 = (a+b)(a^2-ab+b^2)$ 5) $a^3-b^3 = (a-b)(a^2+ab+b^2)$ 6) $(a+b+c)^2 = a^2+b^2+c^2+2(ab+bc+ca)$ 7) $a^3+b^3+c^3-3abc = (a+b+c)(a^2+b^2+c^2-ab-bc-ca)$ * $A = \frac{1}{2} r^2 \frac{\theta\pi}{180}$ * $\frac{arc}{r} = \frac{\theta^\circ\pi}{180}$

Minimum Levels of Learning at Upper Primary Stage- NPL
Mathematics

Area	Class VI (Stage I) 1st Year	Class VII (StageII) 2nd Yr.	Class VIII (Stage III) 3rd Year
	5.6.5 Finds the value of an algebraic expression by using the value of the variable/variables (The exponent of the letter-symbol should be a natural number) 5.6.6 Adds and subtracts the given algebraic expressions (The expression having not more than 4 or 5 terms) 5.6.7 Writes linear equation in one variable of a given problem. 5.6.8 Solves simple linear equations of one variable. 5.6.9 Solves day to day life problems based on linear equations (Solutions should not be negative fractions)	5.7.5 Factorises the expressions of the type ax+ay, $ax^2+ay^2+bx^2+by^2$ by taking common factors. 5.7.6 Solves linear equations in one variable (solution can be any rational number) 5.7.7 Solves words problems using the competencies 5.7.6	5.8.2 Factorises given expressions based on the above identities 5.8.3 Applies the above identities in solving problems. 5.8.4 Divides algebraic expressions by monomial and binomial expressions of one variable. (Algebraic expressions restricted to polynomials of degree 4 or 5 of one variable) 5.8.5 Establishes the following formula Dividend = Divisor X Quotient + Reminder 5.8.6 Solves the equations of the following type $\frac{ax+b}{ax+d} = k$ 5.6.7 Solves word problems based on the above competency in 5.8.6
VI Ability to use and interprete Statistical data	6.6.1 Reads and interpretes the given Bar-graphs	6.7.1 Draws bar-graphs on graph sheets using the given data.	6.8.1 Makes frequency table of the given Raw-data 6.8.2 Groups Raw data into class according class size and intervals class limits. 6.8.3 Reads and interprets the given Histogram. 6.8.4 Finds the mean of ungrouped data

Minimum Levels of Learning at Upper Primary Stage- NFE
Mathematics

ea	Class VI (Stage I) 1st Year	Class VII (StageII) 2nd Yr.	Class VIII (Stage III) 3rd Year
	3.6.4 Recognises different types of angles . 3.6.5 Measures angles with the help protractor 3.6.6 Draws parallel lines with the help ruler and set squares	3.7.4 Applies the above property in solving problems related to angles of a triangle. 3.7.5 Constructs different triangles using compass and ruler. 3.7.6 Demonstrates the following properties of a triangle (i) Angles opposite equal sides of a triangle are equal. (ii) Sides opposite equal angles of a triangle are equal. 3.7.7 Names different parts of a quadrilateral. 3.7.8 Demonstrates the following properties:- (i) The sum of four angles of a quadrilateral is equal to 360° (ii) ~~C~~opposite sides and angles of a parallelogram are equal. (iii) Diagonals of a parallelogram bisects each other. (iv) Diagonals of a rectangle are equal. (v) Diagonals of a rhombus bisects each other at a right angle. (vi) .Diagonals of a square are equal and perpendicular to each other. 3.7.10 Names different parts of a circle.	3.8.2 Constructs quadrilaterals when the following are given:- (i) 4 sides and 1 diagonal. (ii) 3 sides and both diagonals. (iii) 2 adjacent sides and 3 angles. (iv) 3 sides and 2 included angles. 3.8.3 Demonstrates the following properties of a circle:- (i) Angle in the semi circle is a right angle. (ii) Angles in the same segment are equal. (iii) Length of two tangents to a circle from an external point are equal.

Guideline for the development of textual material in the area of Social Science (Civics)

INTRODUCTION

Textbook is an important tool for the teacher as well as for the learner. Textbooks on various curricular areas has to be prepared and designed in a way so that the divergent group of learners get opportunity to obtain desired competency in shorter duration and yet in an effective manner. While writing textbook Authors are required to adhere to various principles.

At Upper Primary level Civics is taught as separate component under Social Science. History and Geography are the two other components in the area of Social Science. In this portion of the guideline effort has been made to spellout the important diamentions of material development in Civics. These are:

- Objectives of teaching Civics
- Integration
- Gradewise competency alongwith course guidelines
- General guideline for the author for developing textual material.
- Gradewise specific guidelines.

OBJECTIVES :-

Generally speaking the aim of teaching civics is to understand man as a social being and make him an enlightened citizen. At the upper primary stage the broad objectives of teaching civics are to :

- make the child able to understand the problems of the society around him/her
- inculcate the feeling of civic and social responsibilities.
- make him/her aware of the process of democracy, democratic institutions and their functioning.
- to develop a scientific temperament and healthy appreciation of different view points.
- make him understand the various socio economic problems from local to national level and to instil in him a sense of participation in building up a new and strong India.
- to make him a aware of our national goals and values like Democracy, Secularism, National Integration and patriotism.
- to make him look at the world as a big family, respect all human beings and develop a feeling of universal brotherhood.

Integration

The integrated approach in the Social Science syllabus has to be adopted cautiously and carefully. That is to say, instead of interweaving content matter in a scissor and paste manner, the author has to take care that there is no repetition, no overlapping. But there is natural process of integration wherever it is required.

Therefore, scrutiny may has to be made properly keeping in view the allied subject areas, namely Geography and History.

General and specific guidelines for material development and grade wise competencies along with course guideline have been spelt out in the following pages.

General Guidelines for the Author for developing Textual material in the area of Civics.

The author of a textbook for Non-Formal Education has a much more difficult task than often confronted by the author of the textbook for formal education. He has to:

display extraordinary skills of maintaining a balance between the formal academic discipline of the respective subjects and non formal approach of transaction and communication. The approach has to be flexible, decentralised, non-conventional and yet never loosing sight of the main objectives of teaching the particular subject.

In the context of social science, the author has to be more careful while dealing with the teaching units. These units should be presented in a way that would equip the learner to understand his/her environment and natural resources and enable him/her to participate in the activities related to social and economic reconstruction of the country in an enlightened manner.

In short the author should keep the following constraints and principles in mind while writting a textbook :

- The book is to be written for out-of school children and drop outs of the age group 9-14 yrs.
- The children belong to middle or upper primary level.
- Only two teachers are to be provided for a school.
- Only two or three hours are assigned for teaching, project work or practical work a day.
- Various competencies are the expected out come of the textbook content and presentation.

Keeping in view the above points some important principles for developing textbook in Civics has been speltout in the following pages. These principles are however, equally applicable for developing textbook in History and Geography.

GRADATION OF CONTENT :-

Proper gradation is the soul of a good textbook. Content can be graded in two ways

(i) Gradation keeping in view the age and maturity of the child and

(ii) Gradation according to the need of continuity and clarity of the content area.

In other words, gradation should be made according to the requirement of the competency or content matter concerned.

Instructions to the authors

- Devide each area of competencies into several units which may be called chapters.
- Make the unit or chapter small enough to make the child concentrate on the central theme of the unit.
- Give subtitles to the content matter in the chapters.
- because it is easier for the child to learn and retain in understanding are given under subtitles.
- Once the Framework is prepared, procure reference material, information from authentic resources, charts and diagrams.
- Keep in mind the objectives and competencies of a unit. At the same time also keep in mind the objectives of the subject as a whole.
- Make the content self explainatory.
- Insert exercise for every chapter and in built question paper for every unit/the exercises should be of different variety.
-
- Some relevant activities should be suggested at the end of each unit.
- Make provision of glossary of important terms and concepts either at the end of every chapter or at the end of the book itself.

Presentation of content

The style of presentation vary from author to author. However, there are some important considerations which an author has to bear in mind while making a choice of the style of presenting the material. Some in important steps are as follows.

(b) - Present the content through sample narration, a story, or a biography, taking into consideration the children, the nature of the content to be presented and the objectives to be achieved through a particular chapter.

- Keep in mind that the textbook should be an interesting reading for the children and should communicate effectively with the pupils so as to achieve its objections.

- Present the subject matter so as to facilitate the child to get involved actively in the process of learning and it stimulates active thinking on the part of the child.

- Proceed from known world to the unknown world. In order to explain difficult concepts, draw comparisons with things already known to the children. While presenting content relating to historical monuments and the like, draw examples from existing old village temples, mosques and their importance for the village people.

- Present the facts in a way so that it lead to the smooth development of the subject matter from one idea to another.

- Illustrations are an integrated part of presentation. Draw illustrations in the form of pictures, photographs, art work or diagrammes and maps to explain and supplement the content and also to make presentation interesting.

- Present even the most scholarly content in a simple a language as for as possible. Select the language which is commonly used by the NFE clientle group. Explain the technical words (if using) in a chapter in the begining or in a separate glossary at the end of the book.

- Plan illustration for a social studies textbook simultaniously with the writing of the manuscript. The details of the illustration must strictly conform to the actual life situations. Give captions, explanatory notes and exploratary questions alongwith the illustrations, to make maximum use of the illustration by the children. Procure a variety of illustrations with a well defined purpose taken from authantic sources.
- Provide proper and adequate exercises and suggestions for activities at the end of each chapter.
- Review and revise the manuscripts thoroughly before submiting it for scrutiny and review by other experts.
- Prepare prelims and back pages of a social study textbook last of all, when the rest of the manuscript is ready. Include the title page, instructions for the instructors and the reader, preface, and content outline in the prelim. Include glossary, and any other appendices required in a textbook at the back page.

Review Try out and Editing of the Manuscript.

The principle purpose of this stage is to improve upon the manuscript in all its aspects and to make it worthy of being released to the press. Some important principles that govern the execution of this stage discussed below. This will facilitate the concerned writer and other fuctionaries engaged in the task of production of textbook.

- Get the manuscript reviewed without exception by a team of reviewers drawn from different field of competancies in the light of accuracy, authanticity and uptodateness of the information that has gone into the textbook in the form of facts and figures, date and events, concepts and ideas, definitions and generalisation, maps and illustrations.

- Review the illustrations side by side with the main text in the light of adequacy, suitability and essentiality in the presence of the artist and a production expert.
- Do revise (author) the manuscript in the light of the suggestions offered by the review team. Keep in mind that overall purpose of reviewing is to improve the manuscripts.

Trying-out the Manuscript

It is a hard fact, that the practice of trying-out the text materials before final publication of revision of the textbook is rather uncommon in our country. Nevertheless, there is no doubt that tryouts however, expensive and time-consuming are 'a must' if excellence is the aim.

If time and resources permit bring out complete tryout editions of textbooks with illustrations and maps in collaboration with actual classroom teachers.

If integrated approach is adopted, tryout becomes all the more important. It is at this stage, that the training needs, training strategies for the instructor might need modifications, teaching-learning strategies might need significant additions and alterations. This will necessiate to orient the instructors about the approach of the textbook. This will also facilitate to detect and fill unfore-seen gaps in the text.

Again, the try-out activity may be considered essential for the purpose of evolving child friendly textbooks rather than curriculum loaded textbooks to be used for limited working days.

Producing the Text Book

It is at this stage that the printing specifications are planned.

It includes:

- Lay out of the book;
- placement of the illustrations;

Suggested below are some of the important steps and principles for textbook production by production editor.

Take decision on the following:-

(1) For printing of the Textbook:

  (a) Page size;

  (b) Length of the line;

  (c) Margins;

  (d) Type size;

  (e) printing and size of each illustration.

(2) prepare a dummy a prototype of the text book.

(3) Prepare an exhaustive list of instructions to be sent alongwith the mauscript and the illustsations.

(4) Thoroughly check gally proofs.

(5) Send the gally proofs to the author for scrutiny.

(6) Prepare a final dummy for producing a good text book in social studies.

(7) Make choice of paper in order to promote and facilitate readability.

(8) Give print order only when the page proof is approved by the author.

Examine (production editor) each and every page to ensure that:

(a) Text area is the same through out the text book.

(b) Space between words is even.

(c) Space between the line is even.

(d) paragraphs are intended consistantly.

(e) Each chapter begins on a new page.

(f) Page numbers are either on the top or at the bottom of the page.

(g) The pages are balanced in respect of text and illustarions.

(h) The alignment of the illustrations and captions is proper.

(i) The content and the illustrations are properly inserted.

Send the page proof to the author for his approval

Finally place the print order.

and

(j) Lastly finalise/compose the prelims of the textbook when the rest of the textbook has been printed.

At this stage make sure (author, production editor) that the:

- Title page is correct and properly worded and balanced.
- Type size of title page is bold.
- Author's name is given
- Year of print, price (if any) is given.
- Acknowledgement page is included.
- Foreword or preface is included.
- Table of conent with correct page number is given.

(10) Make the cover page well balanced, designed and attractive appropriately.

(11) Make the binding of good quality. Ensure that the book is open flat.

Editing of the Manuscript

Editing is best done by some one other than the author. He should have a competence not only in language but also have a knowledge of the subject. All editors tend to follow their techniques. However, there are some common principles of copy editing. These may be summarized as follows.

- Go through the manuscript letter by letter.
- Look it in the light of correctness and consistency in spelling, sentence and paragraph construction, punctuation, capitalization, abbreviations and other gramatical details.
- Take care of communicability aspect as a whole.
- Ensure that cohesion, unity and flow in the language are not wanting.
- See the relationship between the titles of lessons or chapters and the opening lines under them Make sure that the introductory lines of the text lead directly into the subject.
- To make the text more straight to the point, delete which is extra or superficial.
- underline words and concepts which the author has left unexplained or partly explained.
- Watch out typographical mistakes in figures and dates and remove them after verification.
- See that the words used by the author are familiar to the reader. For NFE clientele group all difficult words should be replaced by simpler words if it can serve the purpose equally well.
- Break difficult and long sentences into two or three small simple sentences. This will help to make the text more communicative and forceful.
- See that all illustrations are duly inserted . at the proper place.

The finally edited manuscript, before it is handed over to the production experts, should be get typed quite neatly and accurately.

Effort has been made to evolve some specific guide lines to develop a particular cometency through relevant topics. These have been worked out gradewise.

Specific Guidelines for Developing Textual Material for Grade VI of NFE

Competency No-1 Identifying the community and showing interest in its development, understanding the problems and finding solutions.

Focus Points

(1) Family - Importance of family.
- Relationship amongst family members.
- Interaction with other relatives.

(2) Neighbourhood
- Importance of neighbourhood interdepence.
- Duties towards neighbourhood.

(3) School
- Need and importance of school.
- To develop mutual understanding and to inculcate.
- The spirit of mutual cooperation discipline & duty.

(4) Village
- Importance and role of village in the development of society.
- Village problems & their solutions like lighting, sanitation, drinking water, health, roads & transport.
- Different types of people & their occupations.
- Information about different agencies both governmental & N.G.Os connected with there.

(5) City
- Social problem like poverty, overpopulation unemployment etc & their solution mention agencies both Govt + NGOs.

Competency No-2 Understanding of democratic institution for the betterment of the community and for better participation in the democratic process

Focus Points

Local self Government (Rural) (Panchayati Raj)

Gram Panchayat

- Composition & functions

Block Samiti

contd...

- Composition & functions

Lila Parisad

- Composition & functions

(Urban) Municipalities

- Organisation of municipalities and their functions at different level.

Municipal Corporation

-- The organisation and functions.

Competency No-3.

- Awareness of Democracy at work to inculcate respect for the constitution and to enable him to use his rights and duties.

Constitution

- Making of our constitution
- Our National goals/
- Objectives given in the preamble.

Competency No-4.

- Understanding of Nationalism and the world as a family to develop national integration and universal brotherhood respectively.

Focus Points

- Need & Importance of preservation and promotion of cultural heritage from village onwards to the National level.
- Leading to unity in diversity (Local festivals, fair, folksongs and dances should be highlighted).

Class-VII (IInd Year)

Competency No-1

Focus Points

- Socio-economics problems at the state and National level-like, illiteracy, status of women, untouchability, over population, unemployment drinking, drug addiction, pollution.
- Their causes and solutions.
- Solution of socio-economics special mention about measures to combat Drinking and Drug addiction, and environmental pollution.

Competency No-2.

Focus points

- Organisation and function of the state government only the over all functioning of the state machinery - Governor, Chief Minister, Legislature.

Competency No-3.

Focus Points

- (a) Fundamental Rights
- Fundamental Duties with special of reference to National symbols, monuments (local to national level).
- Public property explaining
- Difference between public property and the private property.
- Preservation and protection of environment.

Competency No-4.

Focus Points

- Need & importance of national intergration
- Hindrances in the way of integration.
- Ways and means to integrate various communities at different levels.

III year (Class VIII)

Competency No-1

Focus Points

- Need and importance of cooperative societies.
- Functions of cooperative societies.
- Importance of agriculture and industry for uplifting people's lot.
- Problems in agricultural field, measures to combat these problems.
- Progress in the industrial sphere .
- Co-relation of agriculture and industry.

Competency No-2

Focus Points

- Organisation of National Government .
- Functions (working) of the Government at centre.
- Relationship between State Government and National Government (feature of federal structure should be emphasised).

Competency No-3

- Director Principles as'definite directives' to improve the social and economic condition of the people.
- Some important Directive Principles by way of illustration.
  - Free and compulsory primary education
  - Protecting interests of the weaker sections of society..
  - Improving health (prohibition of drugs and drinks.
  - Establishment of Panchayats -- Etc. emphasis to be given on the rights and duties of a citizen to strengthen democracy.

Competency No-4

Focus Points

- Interdependence of nations/states.
- Sharing of common problems is now a must.
- India, as a part of world, cannot live in isolation, Relation with neighbouring countries
- Ideal of universal brotherhood
- U.N. as a world organisation and India(Mention only agencies which are doing work for health improvement,upliftment of poor and socio-economic problems of the people.) Human rights (mention two or three important Human rights.

It has to be kept in mind that the entire task is a creative and contextual process. Flaxibility within the general Framework should be the guiding process.

Competencies in Social Science for Ist year, IInd year, IIIrd year of middle level NFE Programme

COURSE GUIDE LINE

Competencies	Class VI (Ist Year)	Class VII (IInd year)	Class VIII (IIIrd Year)
Identifying the community and showing interest in its development. Understanding the problems and finding its solution	Family, immediate neighbour, village/city	Socio-Economics problems at the State and National level i.e. challenges facing the community like	Need organisation and role of cooperative societies towards the upliftment of community.
	(a) Family as a small unit of civic life	-- illiteracy -- untouchability -- status of women -- Drinking & drugs -- population growth -- unemployment -- pollution	(a) Production and productivity in agriculture and industry problems and their remedies.
	(b) School as a social institution - as a tool to inculcate the spirit of duty, discipline and mutual cooperation.		**Projects**
	(c) Village/city - as a unit civic life		(a) Self employment cooperative basis as per the local requirement
	(d) Social problems and their remedies (at village/city level) like poverty, unemployment, overpopulation, indebtedness.		(b) Cooperatives which are helpful in agriculture and marketing activities
			(c) Formation of Cooperatives societies
			(d) Self reliance through planned economy.

GUIDELINE FOR THE DEVELOPMENT OF TEXT BOOK IN HISTORY

INTRODUCTION

Two major questions hold importance prior to writing of text book for History and requires to be examination by author. First, how far the study of history has been responsible for the growth of divisive forces? And Secondly, how far the teaching of history can faster the development of national integration? As far as the first question is concerned it may have to be accepted that study of history has played a significant role in developing the divisive forces in the country. The communal and the regional approach given to the history of the country has led people to identify themselves with the histories of their regions or religions. As stated by Prof. Mujeeb, "Consciously or sub-consciously, we regard to only a part of Indian history as our own, depending on whether we are Hindus or Muslims, or Sikhs, Bengalies, or Maharashtrians." As a result we seldom consider the whole Indian history as our own.

In view of the above points, instead of adopting an approach to the subject which has been essentially biographical and dynastic, communal in character and regional in bias, an effort has been made to treat history as a 'process of change' and 'development' on human life through different stages. On the basis of the five main aspects of life such as social, economic, political, religious and cultural the competencies along with suitable course area has been spelt out for three different levels, that is, VI, VII and VIII in this guideline.

Author has to have give a careful thought about that of tackling controversial issues as well. Such issues in the text book becomes a problem for a text book writer. It is desired that any fact or event that explains the process of development must be given in the text book. But before doing so the accuracy of facts and events should be established by examining them objectively and interpreting them in correct historical perspective. Mental maturity level of the learner is also to be taken into consideration. It is suggested that for middle level, controversial issues may not be included as far as possible in the text book as the minds of the children of this stage are not mature enough to understand the intricacies of the controvercies.

If the author is engaged for developing local specific teaching-learning material, it is desired that due emphasis should be given on local and regional histories in the initial chapters. Every region of the country has a rich heritage and should be given due regard in the teaching of history. This way the children would start the study of history from local to regional and then from National to International.

Keeping in view the above points effort has been made to identify competencies through the course guide line in history in the following pages.

OBJECTIVES OF TEACHING HISTORY AT UPPER PRIMARY LEVEL

The connotation which the term objective/purpose normally carry, implies the effect or the change which is brought about in the mental and physical behaviour of the learners as a result of process of education. The general objectives of teaching history at upper primary level are as follows.

They are to :

- Inculcate the historical method/historical thinking of arriving at facts;
- Develop historical idea of development (continuous process of change);
- Inculcate an appreciation of the contribution of different peoples to the progress of mankind as a whole;
- Develop an appreciation of the growth of various components of Indian culture and legitimate pride in the acheivements of the Indian people in different periods and in different parts of the country;
- Develop a historical perspective for understanding comtemporary India and the contemporary world, of current problems and contemporary processes of change;
- Develop an integrated view of Indian history and civilization and of human civilization as a whole;
- Inculcate a spirit of enquiry and the ability to think critically and creatively and to differentiate between the obsolescent and the dying and the living and the emerging;
- Develop a critical appreciation of the past so that the pupil's personality is free from parochialism, irrational, prejudice, bigotry, communalism and every kind of bhanvinism and imbued rational scientific and forward looking outlook.

Guidelines To Authors of History Textbooks.

The guidelines mentioned below are evolved keeping in view of the special learning situations and learner background of NFE programmes. In this context the author must always be alert not to include everything that appear achievable by a formal student. The author of NFE textbooks thus must be flexible & creative in selecting content & deciding the teaching-learning strategies. As far as possible social science components should be integrated.

Suggested below are some guidelines for the authors of history textbooks :

1) Give due attention to national goals like democracy, secularism, equality & national integration.

2) Keep social and contemporary problems in view while selecting content material.

3) Cluster the instructional objectives in each chapter keeping in view the limited time & less number of instructors available.

4) Pay special attention for promoting required values & attitudes.

5) Have a central theme for social science textbooks which should run through the entire textbook to highlight the competencies provided.

6) Take special care to avoid factual & conceptual errors.

7) Plan in advance the materials and sources to be used for writing the manuscript.

8) Avoid bias in all forms while selecting the material & writing the book.

9) Use simple, clear and easily comprehensible language. Write in brief and precise sentences.

10) Use relevant illustrations, maps, etc. keeping in mind the needs of the NFE students.

11) Make efforts to relate the present situation with the past as far as possible.

12) Select and use some objects, monuments, terms of a region (for which you are writing) having historical importance to facilitate the understanding of the learner.

13) Use short chapters which are well displayed.

14) Present the content through simple narration, a story or biography or through any other way which will hold the interest of the learner.

15) Present the facts in such a way so as to lead to the smooth development of the subject matter from one idea to another & from known to unknown.

16) Suggest suitable activities at the end of each chapter, specify tool to be used while teaching the lesson.

(17) Give a glossary of difficult terms at the end of each chapter.

(18) Prepare the Preface and Appendix only after the manuscript is ready.

(19) Include the title page, instructions for the instructor, reader, and the content outline along with the book.

(20) Once the manuscript is ready, hand it over to the instructor & learner of NFE school to know their response.

COMPETENCIES ALONG WITH CONTENT AREA

1. The competencies in the following pages have been developed with great care keeping in view of the following:

   (a) The national goals.

   (b) Expected learning ability of NFE Students.

   (c) Expected level of success.

   (d) The various constraints of NFE

   (e) The content of syllabus suitable for them.

2. While developing competencies, the treatment followed is not 'personality based' but touches upon more or less all major developments in the historical process of the Country.

3. There has been a continuous effort for relating and linking life with local situations and to establish relationship with national development.

Competencies along with Content Area

	VI	VII	VIII
Stages of Developmental Change			
Social changes	1. Compares the present life with the past 2. Recalls how from nomadic stage man has reached the stage of civilized life. 3. Recognizes the various stages of development. 4. Knows about the beginning of settled life. 5. Identifies the changes in living style, customs and habits. 6. Learns about the nature of Caste System. 7. Examines the difference between the Varna System based on occupation and Caste system based on heridity(Known to Unknown)	1. Compares the present with the past. 2. Establishes relationships between the two periods. 3. Recognizes the development of new Social trends. 4. Recognizes the positive influence of Islam on social life. 5. Recognizes the element of continuity in Society (in Caste System) 6. Knows about the deteriorating position of women and Shudras in Indian Society.	1. Compares the present with the past. 2. Analyses the influence of the past on the present. 3. Recallys the changes in the society and economy due to the emergence of the British in India. 4. Recognizes the prevalence of social evils (Sati, Dowry system and infanticide) 5. Recalls the evils of the practice of untouchability. 6. Compares with the present position. 7. Develops understanding about the western influence on Indian Society.
Economic Changes	1. Recognizes the changes in agricultures trade, technology craft and skill.	1. Recognizes the changes in trade and revenue collection. Compares with present day revenue collection. 2. Learns about the system of Land grant. 3. Understands the reasons for the weakening of ruling authority and strengthening of fendations.	1. Examines the nature of the economic exploitation of Indians under the British Rule. (cities examples from daily life situation to reinforce the meaning of exploitation). 2. Identifies the decline of handicraft industry, decline of agriculture and impoverishment of the peasantry. 3. Appreciates some positive economic development in Textile, Steel instustry and Railway.

Competency	VI	VII	VIII
Political Changes	1. Recalls the present political system in the Village, 2. Recognizes the tribal polity of ancient India. 3. Compares with system prevalent in Indian Villages. 4. Learns about the formation of States and emperes. 5. Recalls the names of some great emperors of ancient India. 6. Examines the increasing power of rulers of an empire.	1. Establishes relationship between the present political system with Village and State. 2. Understands the nature of administration of the sultans of medieval India. 3. Differentiates between the nature of administration of the past and presnet. 4. Recalls the rise in the importance of nobles. 5. Recognises the emergence and establishment of the Mughal rule in India. 6. Identifies the illustrations of some of the important Mughal rulers. 7. Examine the main features of the structure of the Mughal administrative system.	1. Analysis the short comings of the nature of the Mughal empire. 2. Recalls the emergence of the British as traders. 3. Develops understanding about the changing role of the British in India. 4. Understands the meaning of the word colonialism 5. Recognizes the presence of colonial rule in India. 6. Identifies the main features of British colonialism. 7. Gives examples from present day India to highlight the effect of colonialism.

Religious Changes	1. Understands the importance of religion on Indian life.	1. Recalls the emergence of Islam in India.	1. Recognizes the spread of Christianity in India.
	2. Learns about the Vedic religion.	2. Identifies the main feature of Islam	2. Identifies the factors which helped in the spread of Christianity in India.
	3. Learns the importance of forces of nature on the life of Vedic people.	3. Relates the spread of Islam with the coming of the Turkish Sultans in India.	3. Recognizes the positive and negative impact of christianity on Indian social life.
	4. Recalls the emergence of nature Gods (exp Indra, Varun etc)	4. Appreciates the concept of equality preached by Islam.	4. Locates the local church/churches in the region/locality.
	5. Identifies the changes in later Vedic religion.	5. Compares it with the present situation.	5. Compares the form of worship in the churches with form of worship prevalent in the region/locality.
	6. Recognizes the features of Buddhism, Jainish, Hinduism.	6. Appreciates the assimilation of religious ideas of Hindus and Muslims.	6. Appreciates some of the features common to all religion.
	7. Learns the names of four Vedas.	7. Recognizes the importance of Bhakti and Sufi movement on Indians.	7. Identifies religious evils prevalent in Indian society.
	8. Learns the names of later Vedic Gods and Goddesses and about the impact of later Vedic religion on life.	8. Learns the names of important Bakti and Sufi Saints.	8. Appreciates the role and contribution of social and religious reformers of India.
	9. Recalls the contribution of Buddha and Mahavira.	9. Recalls the name of Guru Nanak and his role in the emergence of Sikhism.	

Contd....3

Competency	VI	VII	VIII
Contd. Religious changes	10. Appreciates the value of moral code of conduct. 11. Stresses the importance of Ahinsa and the concept of equality. 12. Examine the importance & relevance of Ahinsa on present life. 13. Learns to respect animal life and to protect environment. 14. Recognises the names of Indian epics – Ramayana & Mahabharta. 15. Appreciates the tolerant attitude of people of that period.	10. Identifies the mosques and temples in the local areas. Establishes relationship with the community. 11. Learns to appreciates the religious customs, habits, festivals of one another. 12. Develops the concept of Secular attitude.	9. Learn the names of great social and religious reformers of India.

Changes in the Cultural life-in art' architecture sculpture and literature	1. Learns about the Cultural development in India. 2. Identifies the major achievements of ancient Indians in building activities, in sculpture art and architecture. 3. Development of regional language and literature during the period of Jainism and Buddhism. 4. Appreciates the Gurukul system of the Vedic period. 5. Compares the present system of education with the Gurukul. 6. Learns the names of a few Indian scholers. 7. Appreciates their contribution on all sections of the society.	1. Feels proud about the cultural heritage of India. 2. Appreciates the composite Indian Culture. 3. Identifies the major achievements in art architechture, literature and sculpture. 4. Appreciates the contributions of all section of Indian People in the development of a composite culture. 5. Learns about the emergence of urdu language as a major Indiah language. 6. Identifies the new styles of architecture such as domes and arches, use of red sand stones and marbles etc. 7. Indentifies local movement both Hindus and Muslim, identifies the style used in them.	1. Analyses the factors which helped in the development of a rich culture in India. 2. Recognizes the contribution of Indian leaders in the development of national literature. 3. Recalls the growth of press and publication of major news papers both in English and local languages. 4. Indentifies local news papers. 5. Finds out their first publications.

Contd....4

Competency	VI	VII	VIII
India's Struggle for freedom	-	-	1. Learns about India's struggle for freedom. 2. Identifies the grievances of Indian people against foreign rule. 3. Learns about the Revolt of 1857. 4. Recognizes the effort made by some important leaders and their sacrifies for the Country. 5. Finds out the role of the region in the Revolt. 6. Examines the effect of Revolt. 7. Understands the major reasons for the developmen of national conciousness in India. 8. Learns the names of a few great Indian leaders and their contributions. 9. Identify the names of some Women leaders and leaders of local areas. 10. Learns about the great contributions of the India Women freedom fighters. 11. Develops a sense of respect towards all time Mart of our Country for their supreme sacrifies.

Guidelines for Authors of Geography Text Book

i Introduction.

Geography is dynamic by nature, not only content-facts, events and genaralizations- but even its basic philosophy has been changing. It is very necessary for authors to keep pace with them. Uptodateness is one of the important disciplinary demands of the subject. Lack of upto-dateness, rather modernization is a serious defect; while selecting content, the authors are to fulfil this demand considerably.

At Primary level NFE programme, Geography is studied as a part of Environmental Science. At Upper Primary level, it is introduced as a separate subject, under Social Science subject. The text Book of Geography should meet the Socio-political needs and ideals sought to be transmitted through them to the learners.

Keeping in view the importance of Geography as a separate subject at middle stage, layout of some general principles as Guidelines for authors to prepare text book on the above mentioned subject is of a necessity.

In this context it is essential that the authors are clear about the specific competencies that provide basis of material development, adoption of suitable teaching-learning process and evaluation activities.

The competencies in geography have been spelt out unitwise in the following pages.

COURSE GUIDELINE
AND
MAJOR COMPETENCIES IN GEOGRAPHY

AT MIDDLE LEVEL NFE
(CLASSES VI, VII & VIII)

MAJOR COMPETENCIES IN GEOGRAPHY AT CLASS VI LEVEL

UNIT I Map Reading - After studying this unit, the child will be able to :

- differentiate between Map, Atlas & Globe
- draw a sketch - map or plan.
- Read maps by recognising simple conventional signs and symbols.
- Measure distances and directions on a map.

UNIT II The Earth - After studying this unit the child will be able to :

- Understand the position of the earth in the Solar System.
- Differentiate between rotation and revolution and their effects.
- Locate places on the earth with the help of latitudes and longitutes.
- Identify the four realms of earth

UNIT III The Village - After studying this unit the child will be able to :

- describe the location of one's home in terms of roads rivers, canals etc. (i.e. relative location)
- Locate his village within the district in terms of distance and direction from the district H.Q.
- identify the pattern of residential huts and houses/ market/school/dispensary and other important places.
- Understand the local factors affecting agriculture, such as soil types, water supply, climate etc.
- appreciate the role of economic factors like availability of good quality seeds, irrigation facilities electricity, farm implements and machinary.
- Understand the occupation based on local resources like forestry and quarries.
- Understand his immediate environment namely :
    - (i) Physical
    - (ii) Socio-cultural
    - (iii) Economic etc.

MAJOR COMPETENCIES IN GEOGRAPHY AT CLASS VII LEVEL

UNIT I - THE ATMOSPHERE - After studying this unit the child will be to :

- Understand the composition of the atmosphere
- Explain with a diagram the different layers of atmosphere.
- Understand how the atmosphere is warmed, and the factors influencing the process.
- Explain (i) the meaning of "Atmospheric Pressure" and (ii) how it is measured.
- Explain with a diagram the different pressure belts.
- Understand how winds are caused.
- Explain with a diagram the "Planetary Wind System".
- Understand now moisture is retained by the atmosphere in the shape of water vapour, and the concept of humidity.
- Explains the conditions under which condensations and cloud-formations takes place.
- Understand the conditions under which precipitations occurs & the different forms of precipitation.

UNIT II - THE HYDROSPHERE - After studying this unit the child will be able to :

- Differentiate between the three main motions of oceanic water - waves, currents and tides.

UNIT III - THE DISTRICT - After studying this unit the child will be able to :

- Locate the district within the map of the state and measure its distance and direction from the state capital.
- Identify the pattern of clusters/settlements used for commercial, industrial and administrative purpses.
- Find out/assess the position of civic amenities available at the District H.Q, such as educational/ medical & health/banking & commerce/transport/ electricity & water supply/industries etc.
- Identify the main occupation of the district ; agriculture/mining & quarrying/forestry/livestock raising/industries(Agrobased-mineral-based).
- Prepare a sketch map/outline map of the district showing :

(a) Boundary of the district/village
(b) District H.Q.
(c) The location of one's own village.
(d) Main rivers, lakes, hills, mountains etc.

(e) Main areas under agriculture/pastures/forests/ mining activities/industrial townships, if any.

(f) Main roads, railways etc.

(g) Able to guide people to reach right destination in the District/Village.

(h) Able to understand his immediate environment namely :

(a) Physical

(b) Socio-cultural

(c) Economic etc.

UNIT IV - THE STATE - After studying this unit the child will be able to :

- locate the state in the political map of India and measure the distance and direction of the state capital from the national capital (Delhi).
- with the help of a sketch map the main features of relief (i.e, mountains, hills, plateaus and plains) are identified.
- Draw the main rivers in his sketch map.
- Understand the seasional changes in climate as observed during the year.
- locate on the map of the state, various soil type, forest type and wild life.
- Make a list of important natural resources available in the state.
- Identify the areas under major crops and classify the crops into two categories viz. Rabi & Kharif.
- locate the main areas in the state where agro based or mineral based industries have become important.
- draw a sketch map of the state showing main routes of transport and important towns.

X X

TOTAL (26 competencies at Class VII level)

MAJOR COMPETENCIES IN GEOGRAPHY AT CLASS VIII LEVEL

UNIT I - LITHOSPHERE AND LAND FORMS - After studying this unit the child will be able to :

- Understand the components of the earth's crust : rocks and minerals.
- Identify the major rocks types and explain the formation of each.
- Explain with the help of diagram the interior of the earth.
- Understand the processes leading to earthquake and volcanoes.
- discriminate between weathering and gradation.
- describe how weathering leads to soil formation.
- Identify the five main agents of gradation and describe briefly the main work of each agent.
- Collect specimen of rocks/soil type from the neighbourhood of his/her village and with the help of the teacher identify each specimen.

UNIT II - INDIA - PHYSICAL SETTING - After studying this unit the child will be able to :

- Understand locational advantages enjoyed by India.
- Classify India's major relief features into three main physiograpic dicision and describe each briefly.
- Prepare a map of India showing the major features of relief and drainage.
- Describe the salient features of India's Monsoon climate.
- Identify the main vegetation types of India.

UNIT III- INDIA - NATURAL RESOURCES - After studying this unit the child will be able to :

- locate the main areas under (a) various soil types(b) forest types (c) wild life, on a map of India.
- describe the main areas known for the production of minerals.
- Appreciate the importance of water as a resource and the need for conserving it.
- Explain why conservation of natuyal resources is a must.

UNIT IV - INDIA - ECONOMIC DEVELOPMENT - After studying this unit the child will be able to :

- Understand the changes which have bean brought about in Agriculture since Independence.
- Identify the areas under major crops.
- Explain the growth of (a) agro based (b) mineral based industries.

- discriminate between means of transport and communications
- Prepare maps of India showing the important (a) railway routes (b) National Highways (c) Major ports.

UNIT V - INDIA - HUMAN RESOURCES - After studying this unit the child will be able to :

- appreciate that human resource is the greatest resource.
- Locate the main area of (a) dense (b) moderate (c) sparse population.
- Evaluate whether India's rapidly growing population is a Threat or a Boon.
- Discriminate between rural and urban population.
- Explain why there has been an increase in migration of people from the rural to urban areas during recent periods

UNIT VI - MAP WORK - After studying this unit the child will be able to - fill in details based on the above topics (As suggested in text), on an outline map of India. Using suitable symbols wherever necessary.

The course guideline for various grades mentioned above are subject to change according to the need and requirement of the learner without effecting parity and equivalence with formal system of education.

General guidelines for authors for preparing text book have been spelt out in the following pages.

Efforts has been made to develop some specific guideline based on unitwise competencies for preparing textbook in Geography for various levels.

GENERAL

Guidelines for Authors for preparation of textual Material in different curricular areas for middle level NFE&AS programme in the subject of Social Science (Geography)

INTRODUCTION :

The author must keep in his mind the fact that textual material is perhaps the only tool of instruction in NFE&AS centres. Hence it is very important that the author gives due consideration to the prescribed syllabus and the competencies developed therein.

The other thing the author must bear in mind is the acedemic/ intellectual level of the pupils under NFE&AS programme.

SPECIFIC GUIDELINES FOR THE AUTHOR ON PREPARING TEXTBOOK :-

- Study the prescribed syllabus/topics of the units/competencies developed gradewise (class VI,VII,VIII) before starting to write.
- Prepare a plan for the proposed textbooks for each grade carefully
- List out/collect in advance the important sources of information to be used.
- Keeping in view the detailed statement of competencies/ instructional objective in the teaching of Social Sciencea at the Upper Primary stage (VI,VII,VIII), develop a detailed plan for writing various chapters unit wise. Each unit may contain one or more chapters (as required).
- Develop the textual material in the order of units constituting the syllabus, handling one competency at a time.
- Illustrate your text with as many diagrams and sketch maps as possible in order to make the concept very clear to the students.
- Draw up a plan of the time-frame within which the textbook for each level must be completed, and adhere to it as far as possible.

UNIT WISE GUIDELINES FOR WRITING TEXTBOOKS AT VARIOUS LEVELS.

(ARRANGED IN ORDER OF COMPETENCIES DEVELOPED) :-

(A) Textbook for class VI level :-

UNIT I - Map Reading :-

- Give the defination of map, atlas and Globe and point out how each is different with other.
- Explain how sketch map/plan could be drawn.
- Prepare a pictorial chart depicting simple conventional sign/symbols.
- Give the instruction on how distances and direction may be measured on a map.
- Prepare a diagrame of four principal direction (NEWS) and for second order direction (NE,SE,SW,NW).

UNIT II - The Earth :

- Explain with the help of pictorial diagramof the solar system.
- Explain with the aid of suitable diagrames the two main motions of the earth - Rotation & Revolution and their effects.
- Explain the term.latitude and Longitude with the help of suitable illustration, and show how these may be used to pinpoint the location of place on a global earth.
- With the aid of a suitable diagrame explain the four realms of the earth is namely Lithosphere, Hydrosphere, Atmosphere and Biosphere.

UNIT III - The Village :-

- For the purpose of study choose a hypolitical village and describe how its location may be descrlbed in terms of roads, rivers, canals etc.

  NOTE : The NFE instructor may choose an actual village and study its location likewise. i.e. visit to a village etc.
- Explain how the location of the village within the district may be described in terms of distance and direction from the Dist. HQ.

- Explain how the pattern of residential and other settlements may be identified and illustrated on a sketch map.
- Explain how agriculture is influenced by the existance of local factors like soil types, available water supply, climate etc.
- Giving suitable examples explain how economic factors like availability of good quality seeds, irrigation facilities, electricity and farm implements & machinery can influence the development of the region.
- Explain with the help of suitable examples how certain occupation may be developed from local resources.
- Illustrating with suitable example explain how the life in the village is influenced by its environment (i) physical (ii) socio-cultural(iii) economic.

(B) Textbooks for class VII level :-

UNIT I - The Atmosphere :-

- Define Atmosphere as a jasious layer envoloping the earth
- Describe the main constituents of the atmosphere.
- With the help of suitable illustration explain the different layers of atmosphere.
- Explain how the atmosphere is warned and also how this process is influenced by certain factors.
- Explain the meaning of Atmospheric pressure and how it may be measured.
- With the aid of well labelled diagrame explain the location of the different pressure belts.
- Explain how winds are caused due to pressure differences and prepare a diagrame of "Plantary Wind System".
- Explain the concept of humidity and the condition under which moisture is retained by air in the shape of water vapour and the condition under which it is released.(the process of condensation)
- Explain how condensation leads to cloud formation and precepitation.

- Explain the different forms of precipation (rain, sleet, hail, snow etc)

UNIT II - THE HYDROSPHERE :-

- List the three main motion of oceanic water - waves, currents and tides and show how each is different with other, Illustrate your description with suitable diagrames.

UNIT III - THE DISTRICT :-

- Explain how sketch map of district may be prepared for measuring the distance and direction of the district from the state capital.

- Explain how pattern of clusters/settlements used for commercial/industrial and administrative purpose may be depicted on a sketch map.

- Explain how the various civic amenities of the district may be recorded by student.

- Explain how the distribution of various occupations of the district may be noted by the student.

- Explain the environment of the district under (i) physical (ii) socio-cultural & economic condition.

UNIT IV - THE STATE :-

- Explain how the selected state may be shown on the political map of India and how distance and direction of the state capital from the national capital may be determined.

- Give the direction of preparing a state showing the main features of relief and drainage.

- Explain how the NFE student may note carefully, with the help of the teacher the various changes in climate as observed during the year.

दिशा निर्देश (विज्ञान)

सामान्य दिशा निर्देश

अनौपचारिक शिक्षा कार्यक्रम का उद्देश्य समाज के अपेक्षाकृत सुविधा वंचित वर्गों के बच्चों को ऐसी शिक्षा प्रदान करना है, जिससे वे औपचारिक शिक्षा व्यवस्था की तुलना में कम समय में प्रासंगिक और जीवनोपयोगी शिक्षा प्राप्त कर सके। इस वर्ग की आवश्यकताओं, आकांक्षाओं तथा परिवेशीय विशिष्टताओ के साथ प्रत्यक्ष रूप से सम्बन्धित शिक्षा ही उनके जीवन स्तर को समुन्नत करने मे सहायक हो सकती है। अत विकसित की जाने वाली अधिगम सामग्री मे इन बिन्दुओं को विशेष रूप से ध्यान मे रखना आवश्यक है।

– प्राकृतिक और सामाजिक परिवेश से सदर्भ को ग्रहण कर वैज्ञानिक तथ्यों एव अवबोधों को उनसे जोडा जाय। इससे बच्चो को एक ओर जहॉ विज्ञान का व्यावहारिक रूप देखने को मिलेगा वही प्राकृतिक और सामाजिक सदर्भ समस्याओ का वैज्ञानिक विश्लेषण करके उनका हल निकालने में भी सहायता मिलेगी।

– इस अधिगम सामग्री का उपयोग मुख्यत ग्रामीण मजदूर वर्ग के बच्चों द्वारा किया जायेगा। अत प्रस्तुति में उनकी दैनिक आवश्यकताओं और क्रियाकलापो का विशेष ध्यान दिया जाय।

– यथासम्भव ऐसा प्रयास करें कि बच्चों के समक्ष समस्यात्मक स्थिति उत्पन्न हो। वे उसका हल खोजने के लिए उत्सुक और तत्पर हो।

– प्रयोगों के चयन में इस बात का ध्यान रखे कि परिवेश मे उपलब्ध वस्तुओं की सहायता से उन्हें आसानी से किया जा सके।

– विषय वस्तु क्रमबद्ध एवं आयु वर्ग की सीमा के भीतर हो।

– भाषा सरल एवं बोधगम्य हो। यथास्थान नामांकित चित्रों एव रेखाचित्रो का प्रयोग हो।

– लेखक ग्रामीण परिस्थितियों एव तत्कालीन दशाओं का स्वय अवलोकन करे तभी वह अनुकूल लेखन में सफल होगा।

विषय वस्तु स्पष्टीकरण हेतु–

– वर्गीकरण को स्पष्ट करने के लिए कक्षा-६ में जीवन के लक्षण (वृद्धि, श्वसन, गति आदि) स्पष्ट करे। जन्तु तथा पौधों में अन्तर स्पष्ट करें। विभिन्न प्रकार की आकृतियों (गोलाकार, बेलनाकार, सर्पिलाकार आदि) आयु (एक वर्षी, द्विवर्षी, बहु वर्षी) (शाक, झाड़ी, वृक्ष) आदि विभिन्नताओं के आधार पर जन्तु तथा पौधों का वर्गीकरण स्पष्ट करें। कक्षा-७ में एक कोषीय तथा बहुकोषीय कशेरुकी तथा अकशेरुकी जन्तुओं की विशेषताए तथा उदाहरण द्वारा जन्तुओं का वर्गीकरण तथा थैलोफाइटा तथा

एम्बयोफाइटा की विशेषताए बताते हुए, पेड पौधों का वर्गीकृत करें। कक्षा [illegible] मे अकशेरूकी जन्तुओं को विभिन्न वर्ग (प्रोटोजोआ, पारीफेरा सीलइन्टा) कशेरूकी जन्तुओं मत्स्य उभयचर पक्षी सरीसृप, मेमेल्स मे वर्गीकृत करायें।

– द्रव्य का वर्गीकरण स्पष्ट करने के लिए कक्षा –६ मे ठोस द्रव तथा गैस बताये। कक्षा ७ मे ठोस के प्रकार धातु एव अधातु, चालक, अचालक क्रिस्टलीय तथा अक्रिस्टलीय विलेय-अविलेय आदि इनका उपयोग दैनिक जीवन के उदाहरणों से स्पष्ट करें। जैसे तवे का हत्था लकडी का (तवा कुचालक तथा लकडी चालक), बिजली के उपकरणों के ढक्कन प्लास्टिक कुचालक के बने होते है।

– उर्जा का वर्गीकरण करने के लिए कक्षा – ६ मे यान्त्रिक चुम्बकीय उष्मीय आदि प्रकार। यान्त्रिक उर्जा के उपयोग तथा विभिन्न उर्जा के रूपान्तरण दैनिक जीवन के उदाहरणों (साइकिल चलाना तेल जलाना, बल्ब मे विद्युत उर्जा से प्रकाश उर्जा का रूपान्तरण) आदि ।

–कक्षा – ८ में सचारण की विधिया चालन सवहनविकीरा को दैनिक जीवन के उदाहरणों जैसे - तवा आग से तपता है और चालन द्वारा उसका हत्था गर्म हो जाता है। करछी से सब्जी चलाने पर उसका हत्था गर्म हो जाता है।

सवहन विकीरण को स्पष्ट करने के लिए उदाहरण दे जैसे – एक बच्चा गेंद दूसरे बच्चे को देता है बीच के बच्चे खडे रहते है। सूर्य से उष्मा पृथ्वी पर पहुचती है बीच का माध्यम गर्म नही होता। यहां बच्चो को यह समझाना आवश्यक है कि विकीरण से पहले पृथ्वी गर्म होगी तथा फिर पृथ्वी से लगी हवा के कण सवहन धाराओं से शेष वायु को गर्म करेंगे।

– भौतिक एव रासायनिक परिवर्तन स्पष्ट करने के लिए जैसे गेंद को दबाने पर उसका आकृतिक परिवर्तन हो जाता है परन्तु दाब हटाने पर पहले वाली अवस्था मे आ जाता है। रासायनिक परिवर्तन मे पदार्थ अपनी पूर्व अवस्था मे नही आता जैसे लकडी जलने पर प्रकाश एव राख देती है परन्तु इन तीनों को मिलाकर रखने पर पुन लकडी मे नही बदलती।

– मापन की आवश्यकता दैनिक जीवन के उदाहरणों जैसे - बाप ने बेटे से कहा बीस हाथ रस्सी लाना। बेटा बीस हाथ रस्सी स्वय नाप कर लाया और बाल्टी बाध कर कुए से पानी निकालने चला। परन्तु बाल्टी पानी तक नहीं पहुची बाल्टी पहुचने मे रस्सी छूट गई। ऐसा क्यों हुआ। कक्षा सात मे मापन की मानक इकाइया को स्पष्ट करे। कक्षा सात मे बल के सम्बोध को सामान्य उदाहरण दे जैसे गाय को रस्सी से खीचने पर उसकी दिशा मे परिवर्तन होता है। दाब टूटी नोक वाली सुई से कपडो मे टाके लगाने मे कष्ट होता है। क्योकि बल ज्यादा लगाना पडता है। नोक दार सुई से कम बल लगता है क्योकि सुई की नोक का क्षेत्रफल कम होता है। अब दाब = बल/ क्षेत्रफल सूत्र को स्पष्ट करे।

– कक्षा छ मे भोजन के अवयव (कार्बोहाइड्रेट प्रोटीन [illegible] वसा [illegible] लवण विटामिन) इनके स्रोत तथा स्वास्थ्य के लिए इनकी उपयोगिता [illegible] मे सन्तुलित आहार मे पाये जाने वाले पोषक पदार्थ तथा कुपोषण एव कक्षा [illegible] मे कुपोषण से होने वाली बीमारियां [illegible]

मैरेस्मेस, रतोधी इनके हानिकारक प्रभाव एवं रोकथाम हेतु स्थानीय उपलब्ध भोज्य पदार्थो का आहार मे प्रयोग।

– कोशिकीय रचना एव सगठन को स्पष्ट करने के लिए सामान्य उदाहरण जैसे एक इमारत कई ईटो से बनती है उसी प्रकार कोशिका मानव शरीर की इकाई है। अतक, अतक तत्र अग अगतत्र को स्पष्ट करते हुए पाचन, श्वसन रक्त परिसचरण बोध कराये। कोषिका विभाजन, उसके प्रकार, स्पष्ट करके जनन एव वृद्धि में इसका महत्व बताये।

– प्राकृतिक ससाधनो का महत्व व उनके सरक्षण को स्पष्ट करने के लिए कक्षा –६ मे नवीकरणीय व अनवीकरणीय संसाधन जैसे– कोयला, तेल आदि जल कर नष्ट हो जाते हैं लेकिन सौर उर्जा, पवन उर्जा, भूगर्भीय उर्जा समाप्त नही हाते, सदैव उपलब्ध रहते है। कक्षा ७ मे उर्जा के वैकल्पिक स्त्रोत तथा कक्षा ८ मे पर्यावरण संरक्षरण (नाभिकीय उर्जा, पवन उर्जा) के महत्व को स्पष्ट करें। बच्चो में पर्यावरण संरक्षण के प्रति चेतना विकसित करें।

विज्ञान

अपेक्षित दक्षताए	कक्षा ६	कक्षा ७	कक्षा ८
१ परिवेश मे पाई जाने वाली वस्तुओं को जानना वर्गीकृत करना तथा दैनिक जीवन मे उनकी उपयोगिता को समझना। – परिवेश मे पाए जाने वाले जतु तथा पेड पोधो को पहचानना तथा उन्हें वर्गीकृत करना। - विभिन्न रासायनिक पदार्थों का वर्गीकरण करने की क्षमता का विकास तथा दैनिक जीवन मे उनका प्रयोग।	– सजीव तथा निर्जीव – जतु तथा पौधे – आकृति, आवास,भोजन,आदतो, आयु के आधार पर विभिन्न प्रकार के जीवों (जतु तथा पौधे) का वर्गीकरण – उर्जा के प्रकार– यांत्रिक उर्जा, उष्मा उर्जा, प्रकाश उर्जा, ध्वनि उर्जा, विद्युत तथा चुम्भकीय उर्जा। – पदार्थ की विभिन्न अवस्थाएँ–ठोस,द्रव,गैस –घुलनशील तथा अघुलनशील पदार्थ – तत्व, मिश्रण तथा यौगिक – भौतिक तथा रासायनिक परिवर्तन	– एक कोशीय तथा बहुकोशीय – कशेरूकी तथा अकशेरूकी जन्तु – थैलोफाइटा तथा एम्ब्रयोफाइटा –उष्मा सचरण की विधियाँ चालन,सवहन विकीरण पारदर्शी और अपारदर्शी पदार्थ – धातु तथा अधातु –समांग तथा असमांग –अम्ल, क्षार तथा लवण – भौतिक परिवर्तन–उष्मा से पदार्थ का गर्म होना, प्रकाश पडने पर पदार्थ का चमकना – रासायनिक परिवर्तन–लकडी का जलना, गैस का जलना, जंग लगना –हानिकारक जीव जन्तु तथा पेड पौधे	कक्षा ८ कोशकीय जन्तुओ को वर्गो मे (मत्स्य उभयचर, सरीसृप पक्षी, स्तनधारी) तथा अकशेरूकी जतुओ को विभिन्न सघ (प्रोटोजोआ, पोरीफेरा, सीलेइटा आदि) मे वर्गीकृत करना तथा प्रत्येक वर्ग की विशेषताए समझना। चालक और अचालक उत्तल, अवतल एव समतल लेंस कार्बन के अपररूप – अयस्को से धातुओ के निष्कर्षण की विधिया। - पृथक्करण की विधिया - कार्बनिक तथा अकार्बनिक पदार्थ – सूक्ष्म जीवो द्वारा होने वाले लाभ तथा हानिया
– दैनिक जीवन मे लाभदायक जीव–जन्तु तथा पेड पौधों के महत्व को समझना। –उर्जा के महत्व को समझना तथा दैनिक जीवन मे इसका प्रयोग।	– दैनिक जीवन मे काम आने वाले लाभदायक पेड पौधे तथा जीव–जन्तु – मानव जीवन में उर्जा का उपयोग – तत्व मिश्रण एवं यौगिक की जीवन मे उपयोगिता	– दैनिक जीवन मे उष्मा का उपयोग उष्मारोधी और उष्मा चालित वस्तुए – अम्ल,क्षार एवं लवण के उपयोग – मिश्र धातुओ के उपयोग	दैनिक जीवन मे लेंसो का उपयोग (दूरदर्शी, सूक्ष्मदर्शी चश्मा) – मानव निर्मित रेशे, साबुन, अपमार्जम, प्लास्टिक, काच, उर्वरक कीटनाशक, जीवाणु आदि का प्रयोग।

२ भा के अवयवों को जानना सतुलित आहार के महत्व को समझना तथा दैनिक जीवन मे इनका प्रयोग करना। अ भोजन के अवयवों को जानना। ब सतुलित भोजन की उपयोगिता को समझना। स स्थानीय परिवेश मे उपलब्ध खाद्य पदार्थों का सतुलित आहार के रूप मे प्रयोग करना।	भोजन के अवयव– कार्बोहाइड्रेट , प्रोटीन, वसा, खनिज लवण, विटामिन- इनके प्रणित स्थान तथा महत्व	सतुलित आहार कुपोषण	कुपोषण से होने वाली बीमारिया उनकी रोकथाम के लिए उपलब्ध भोज्य पदार्थों का दैनिक आहार मे प्रयोग।
३ (१) मापन और गणनाओं का अवबोध करना। (२) मापन के महत्व को समझना। (३) दैनिक जीवन मे इसका प्रयोग करना।	मापन के विभिन्न आयाम- लम्बाई समय द्रव्यमान, मापन की आवश्यकता। - रासायनिक परिवर्तन (उष्मा शोषी व उष्मा क्षेपी)	–लम्बाई की इकाई (सेमी मी) समय की इकाई (सेकण्ड मिनट) द्रव्यमान की इकाई (ग्राम किलोग्राम) ताप तथा क्षेत्रफल का मापन – रासायनिक अभिक्रियाए एव समीकरण –रासायनिक साम्य	बल एव दाब तथा इनकी इकाइया— वायु दाब, द्रव का दाब उत्प्लावन बल के कारण डूबने वाली वस्तु के भार मे कमी (आर्किमिडीज का सिद्धात) –मिश्र धातुओ की कठोरता का निर्धारण (कार्बन–स्टील सिलिकस्टील एलनिको, पीतल)

४. . । तथा अन्य कोषिकीय संरचना तथा संगठन को समझना तथा विभिन्न जैविक प्रक्रियाओं की सामान्य जानकारी रखना। – कोषिकीय संरचना को समझना। - शरीर के विभिन्न अंगों की सामान्य जानकारी रखना। कोषिका विभाजन का वृद्धि एवं जनन में महत्व समझना।	– कोषिका (शरीर की इकाई) की संरचना। –उतक, अंग तथा अंगतन्त्र का सामान्य ज्ञान, शरीर के आवश्यक अंग जैसे हृदय, फेफडे मस्तिष्क, वृक्क, आमाशय आदि के कार्यों की सामान्य जानकारी। – पौधे के विभिन्न अंग-जड तना पत्ती, फूल फल, बीज को सामान्य ज्ञान एवं उनके कार्यों की जानकारी।	– जन्तु तथा वनस्पति कोषिका मे अन्तर – पाचन, श्वसन रक्त परिसंचारण तथा उत्सर्जन तंत्र का सामान्य ज्ञान – जड तना तथा पत्ती के प्रकार तथा उनके रूपान्तरण।	कोषिका विभाजन तथा वृद्धि एवं जनन मे इसका महत्व। – विभिन्न जैविक कियाओं द्वारा श्वसन पाचन, रूधिर, परिसंचरण उत्सर्जन के द्वारा जल घुलित लवण भोज्य पदार्थ तथा उत्सर्जी पदार्थों का शरीर में परिवहन तथा निष्कासन। - पुष्प की संरचना परागण बीजों का प्रकीर्णन, बीज की संरचना तथा अंकुरण।
५. प्राकृतिक संसाधन उनके महत्व को समझना। – पर्यावरण संरक्षण के प्रति चेतना विकसित करना। – पर्यावरण संरक्षण के लिए प्रयास करना।	–विभिन्न प्रकार के नवीकरणीय तथा अनवीकरणीय ससाधन – परिस्थितिक तत्र तथा इसके घटक (जैवीय, अजैवीय) – मृदा का बनना (मिट्टी का बनना) –प्रदूषण का सामान्य ज्ञान	– समाप्त होने वाले, समाप्त न होने वाले तथा खनिज ससाधन। – जैवीय घटक(उत्पादक, उपभोक्ता, अपघटन कर्त्ताखाद्य श्रखला तथा खाद्य जाल) – मृदा की संरचना तथा प्रकार (मिट्टी) – प्रदूषण के प्रकार, कारण तथा हानियॉ	–उर्जा के वैकल्पिक स्रोत और उर्जा पुन चक्रण। ज्वार भाटा उर्जा आदि। –जन्तुओं तथा पौधो की पारस्परिक निर्भरता, खाद्य श्रृखला के विभिन्न स्तरो पर उर्जा का प्रवाह। –पर्यावरण सरक्षण (मृदा सरक्षण, वन तथा वन्य जीव संरक्षण) व

संस्कृत

भूमिका

भारत की शिक्षा व्यवस्था में संस्कृत का महत्वपूर्ण स्थान है। सभ्यता के आदि काल से लेकर हजारो वर्षो तक शिक्षा के क्षेत्र में संस्कृत भाषा का एकाधिकार रहा है। भारतीय मनीषा संस्कृत को भारतीय सस्कृति का,कोष मानती है। हमारे आदर्शों मान्यताओं एव मूल्यो का मुख्य स्रोत होने के साथ ही साथ संस्कृत हमारी परम्पराओं की संवाहिका कही जाती है। संस्कृत भारतीय भाषाओं की जननी एव सम्पोषिका होने के साथ ही साथ अन्य आर्येतर भाषाओं की भी धात्री मानी जाती है। जीवन के लिए उपयोगी विविध शास्त्रों एव विषयों पर प्रामाणिक ग्रन्थराशि संस्कृत भाषा में विद्यमान है। अनौपचारिक शिक्षा व्यवस्था के अन्तर्गत संस्कृत शिक्षण का और भी विशिष्ट महत्व है क्योंकि वैदिक काल या उससे भी पूर्व से भारतीय शिक्षण केवल अनौपचारिक रूप में ही विद्यमान थी। हजारों वर्षो से भी अधिक समय तक वैदिक शिक्षा केवल सुनने समझने कहने तथा सुने एवं समझे हुए के अनुपालन के रूप में प्रचलित थी। यही कारण है कि भारत की प्राचीन शिक्षा जिसका सम्पूर्ण स्वरूप या अधिकतम स्वरूप अनौपचारिक शिक्षा के रूप में था अत्यन्त उत्कृष्ट एवं फलदायी था। संस्कृत भाषा मे विद्यमान असंख्य एवं प्रामाणिक ग्रन्थराशि इसका सुस्पष्ट प्रमाण है।

भारतीय संस्कृति के संरक्षण तथा उसकी उत्तरोत्तर अभिवृद्धि के लिए संस्कृत भाषा/साहित्य का अध्ययन विद्यालयी शिक्षा के पाठ्यक्रम में अत्यन्त महत्वपूर्ण है। संस्कृत एक ऐसी पूंजी है जिसे प्राप्त कर बालक/बालिका देश की अन्य भाषाओं को आसानी से समझ सकेंगे क्योंकि भारतीय भाषाओ पर संस्कृत भाषा की शैली की स्पष्ट छाप परिलक्षित होती है।

संस्कृत देश के विविध विद्यालयों में विविध रूप से पढाई जाती है। इसका अध्ययन कहीं कक्षा पांच से कहीं कक्षा छह से या फिर कहीं कहीं पर कक्षा दो या कक्षा तीन से कराया जाता है।

अनौपचारिक शिक्षा व्यवस्था में संस्कृत का अध्ययन कक्षा छह से विशेष उपयोगी होगा क्योकि अनौपचारिक शिक्षा व्यवस्था में पढने वाला छात्र शुरू के दो वर्षो में मातृ- भाषा के पढने-लिखने एव बोलने पर पर्याप्त अभ्यास प्राप्त कर चुका होता है। पाठ्य पुस्तक लेखक के आवश्यकताओ को ध्यान में रखते हुए अन्य दृष्टि से निम्नलिखित बिन्दुओं पर चर्चा किया गया है। ये बिन्दु है-

१. मध्यस्तरीय कक्षाओं पर संस्कृत अध्यापन के सामान्य एवं विशिष्ट उद्देश्य
२. कक्षा ६,७ एवं ८ वीं के छात्र छात्राओं में अपेक्षित योग्यता
३ पाठ्य पुस्तक का प्रस्तुतीकरण
४ जीवन मूल्यों की सूची।
५ विषय वस्तु चयन के सम्बन्धित सूत्र
६ कक्षा ६,७ एवं ८ के लिए [illegible]
७ पाठ्य पुस्तक लेखकों के [illegible]

सामान्य तथा विशिष्ट उद्देश्य

अनौपचारिक शिक्षा व्यवस्था के क्रम म कक्षा ६, ७, ८ के स्तर पर सस्कृत अध्यापन के सामान्य उद्देश्य इस प्रकार है।

- छात्र/ छात्राओ को सस्कृत भाषा का सामान्य ज्ञान करना।
- संस्कृत पढने लिखने एव बोलने तथा समझने की क्षमता विकसित कराना ।
- सस्कृत भाषा एवं साहित्य के प्रति उनमे अभिरुचि उत्पन्न करना।

विशिष्ट उद्देश्य-

१. सस्कृत ध्वनियो का शुद्ध उच्चारण करने की योग्यता
२. अर्थ बोध के साथ सरल संस्कृत वाक्यो को पढने की योग्यता
३. सस्कृत में सरल वाक्य लिख सकने की योग्यता उत्पन्न करना
४. संस्कृत में सरल वाक्य बोलने एवं लघुत्तर प्रश्नों के उत्तर सरल संस्कृत मे देनेकी योग्यता उत्पन्न करना
५. संस्कृत के सरल श्लोगो को कण्ठस्थ कर सस्वर वाचन की योग्यता उत्पन्न करना
६. मातृभाषा के सरल वाक्यो को सस्कृत में अनुवाद करने की योग्यता
७. संस्कृत के सरल अंशों के मातृभाषा मे अनुवाद कर सकने की योग्यता
८. राष्ट्रीय सामाजिक, सांस्कृतिक एवं नैतिक मूल्यो का विकास करना
९. संस्कृत भाषा एवं साहित्य एवं उनमे विद्यमान सदेशो को अपनाने के प्रति अभिरूचि उत्पन्न करना।
१० संस्कृत कार्यक्रमो या अन्य अवसरो पर बिना सकोच एव झिझक अपनी बात कह सकने की योग्यता उत्पन्न करना एव भरी सभा मे सस्कृत की सूक्तियो एव श्लोकों को सस्वर पढ कर उसका अर्थ समझा सकने की योग्यता उत्पन्न करना ।

कक्षा ६, ७ एवं ८ के छात्रो में परिलक्षित होने वाली अपेक्षित योग्यताएं

श्रवण-- छात्र सस्कृत की विशिष्ट ध्वनिया का सुनकर समझ सकेगा।

१ विसर्ग ध्वनि (राम, हरि)
२ पदान्त अकारान्त एव आकारान्त (राम रमा)
३ ऋ से र बनने वाली ध्वनि (कृषि कर्म)
४ अनुनासिक एव अनुस्वार
५ सयुक्ताक्षर (क्ष, त्र ज्ञ श्र)
६ सयुक्त वर्ण से पूर्व वर्ण के ऊपर बलाघात (शिक्षण)
७ उष्म ध्वनियाँ (श ष, स ह)
८ पदमध्यगत अकार (अवसर अ व अ स अ र अ)
९ सस्कृत के सरल गद्याशो एव पद्याशो को सुनकर अर्थ समझ सके।
१० सस्कृत की सरल एवं लघु कथाओ को सुनकर साराश ग्रहण कर सके।
११ सस्कृत में दिए गए आदेशो एवं निर्देशो तथा प्रश्नो को सुनकर समझ सकेगा तथा तदनुसार व्यवहार कर सके।
१२. सस्कृत पद्यो या सुभाषितो को सुनकर उनका भाव समझते हुए आनंदानुभूति कर सके।

वाक

१. सस्कृत की विशिष्ट ध्वनियो का शुद्ध उच्चारण कर सके।
२. सयुक्त व्यजन वाले पदो का शुद्ध उच्चारण कर सके। (प्रत्यय, दुर्बुद्धि)
३. पाठय पुस्तक मे आए सुभाषितो को कण्ठस्थ कर सुना सके।
४. संस्कृत के सरल प्रश्नो का सस्कृत मे उत्तर दे सके।
५ पाठय पुस्तक मे सकलित सुभाषितो/ श्लोको को कण्ठस्थ करके सुना सके।
६ अपने सहपाठियो से छोटे एव सरल प्रश्न सस्कृत मे पूछ सके।

पठन

१ सरल सस्कृत पद्याश को पढकर अर्थ समझ सके।
२ सस्कृत गद्य व पद्य के विचारो एव भावो का ग्रहण करते हुए पढ सके।
३ पाठय पुस्तक से गद्याश व पद्याश को पढकर मातृभाषा मे साराश ग्रहण कर सके।
४. पाठय पुस्तक के पाठो का पढकर उसमे निहित जीवन मूल्यो को ग्रहण कर सके।

लेखन

१ सरल सरकृत वाक्यो को सुनकर शुद्ध रूप से लिख सके।
२ विराम चिन्हो का प्रयोग यथास्थापन कर सके।
३ पठित सामग्री पर संस्कृत मे पूछे गए प्रश्नो के उत्तर सरकृत मे दे सके।
४ पाठय पुरतक मे पठित विषय पर सरल सरकृत वाक्य रचना कर सके।
५ किसी चित्र को देखकर अथवा परिचित विषय पर सस्कृत में १० वाक्य लिख सके।
६ अपने गुरूजनो को संस्कृत मे पत्र लिख सके।

भाषातात्विक क्षमताए

१ पाठयपुस्तक मे प्रयुक्त संज्ञा, सर्वनाम तथा किया पदो का प्रयोग कर सके।
२. सस्कृत में छोटे वाक्यों की रचना कर सके।
३ दीघसधियुक्त पदो की पहचान कर सके।
४. संज्ञा–विशेषण किया, अव्यय आदि का प्रयोग करते हुए वाक्य रचना कर सके।
५. पाठयकम मे निर्धारित सधियो से युक्त पदो का विच्छेद कर सके।
६ पाठयपुस्तक मे प्रयुक्त सरल समस्त पदो का मातृ भाषा मे विग्रह कर सके एव अर्थग्रहण कर सके।
७. बार–बार प्रयोग में आने वाली धातुओं के साथ उपयुक्त उपसर्ग लगाकर प्रयोग कर सके।
८ धातुओ के साथ प्रत्यय जोडकर नए शब्दो/ पदों की रचना कर सके।

पाठ्यपुस्तक

अनौपचारिक शिक्षा व्यवस्था के अन्तर्गत उच्च प्राथमिक स्तर पर (कक्षा ६, ७, एव ८) कम से कम तीन पुस्तकें होनी चाहिए। इन पुस्तको का कलेवर बडा और बोझिल नही होना चाहिए। प्रत्येक स्तर पर १० से १५ पाठ ही पाठ्यपुस्तक में रखे जाने चाहिए। पाठो के अन्त मे अभ्यास की पर्याप्त व्यवस्था होनी चाहिए ।

पाठो के प्रकार–

१ गद्य पाठ (चित्र पाठ, निबन्ध पाठ, कथा पाठ सवाद पाठ एव प्रश्नोत्तर पाठ)
२ गद्य पाठ (सूक्ति–पाठ, सुभाषित पाठ, नीति विषयक, श्लोक पाठ एव बाल गीत)

विषय–वस्तु का क्षेत्र

१ घर
२ पशु–पक्षी
३ परिवार/ आस–पडोस
४. पठशाला
५. खेत–किसान
६ खेल
७. पचायत
८. हमारा देश
९ प्राकृतिक वातावरण
१० राष्ट्रीय पर्व
११ सामाजिक एव सास्कृतिक पर्व
१२ मेले
१३ महापुरुषो के प्रसग
१४ आदर्श नारी
१५ वैज्ञानिक शोध एवं शोधक
१६ हितोपदेश की कथाएं
१७ पन्चतत्र की कथाए
१८ सस्कृत साहित्य के अन्य विषय
१९ पौराणिक कथाए
२० गॉव मे लगने वाले साप्ताहिक हाट

जीवनमूल्य

अनौपचारिक शिक्षा व्यवस्था की सस्कृत पाठय पुस्तको मे पाठो की रचना इस प्रकार की जाए कि निम्नलिखित जीवन मूल्यो का सदेश दिया जा सके।

१ सत्य
२ सहअस्तित्व
३ क्षमा/ सहानुभूति
४ ईमानदारी
५ सादगी
६. परोपकार
७. विनम्रता
८. निर्भीकता
९. कर्त्तव्यनिष्ठा
१०. जनसंख्या शिक्षा
११. निर्भीकता
१२. धैर्य
१३. सहिष्णुता
१४. स्वावलम्बन
१५. मितव्ययता
१६. अनुशासन
१७. दूसरो तथा बडो का आदर
१८ मित्रता
१९ श्रमनिष्ठा
२० समता
२१. सास्कृतिक एकता
२२ सध्योग
२३ अहिंसा
२४ क्षमा
२५ आत्मविश्वास
२६ केन्द्रिक शिक्षा कम मे दिए गए दश मूल्य इत्यादि

पाठ्यक्रम

कक्षा ६,७ एव आठ की अनौपचारिक शिक्षा की संस्कृत पाठ्य पुस्तक में निम्नलिखित अंशों का क्रमशः समावेश किया जाना चाहिए।

सज्ञा– अकारान्त पुल्लिग, आकारान्त स्त्रीलिग एव अकारान्त नपुसकलिग (नृप,रमा तथा पुष्प) का नामिक परिचय तथा विभक्तियो मे उनके प्रयोग

सर्वनाम– निम्नलिखित शब्दो का परिचय एव प्रयोग अहम आवाम, वयम, त्वम, युवाम, यूयम्, स, तौ, ते, क कौ के, किम्, के, कानि, सा ,ते, ता, तत ते, तानि इत्यादि

विशेषण – १. संख्यावाची १ से १० तक केवल प्रथमा विभक्ति तीनो लिगो मे
२. संख्याक्रमवाची, प्रथम से दशम तक तीनो लिगो मे
३ गुणवाची, अकारान्त और आकारान्त (नामिक परिचय)

कारक – कारको का सामान्य ज्ञान
क्रिया – लट, लृट, लंङ् तीनो पुरूष एव तीनो वचनो मे नामिक परिचय एव प्रयोग
धातु – पठ्, पट्, भ्रम, वह, नी, गै, लिख, इष, मिल, तथा चिन्त के लट लकार का नामिक परिचय एव प्रयोग
अव्यय – यत्र, तत्र, कुत्र, अत्र, सर्वत्र, अन्यत्र, यदा, तदा एकदा, सदा, सर्वदा च वा, अथवा अपि, अद्य, श्व, ह्य प्रातः, सायम्, अहर्निशम, अधुना, एवम, कुत

सधि – दीर्घ एवं गुण संधि का परिचय

कक्षा ७

सज्ञा – इकारान्त पुल्लिंग – मुनि कवि आदि
इकारान्त स्त्रीलिग – गति, मति, शक्ति
उकारान्त पुल्लिग – भानु साधु आदि
उकारान्त स्त्रीलिग – धेनु आदि
ईकारान्त स्त्रीलिग – नदी, भगिनी आदि
इकारान्त व उकारान्त – वारि मधु आदि
नपुसकलिग
ऋकारान्त पुल्लिंग – पितृ, कर्तृ आदि
ऋकारान्त स्त्रीलिग – मातृ, स्वसृ आदि

सर्वनाम – अस्मद्, युष्मद् सभी विभिक्तियो मे
यद्, तद्, एतत्, किम् तीनो लिगो तथा सभी विभक्तियो मे
इदम् (तीनो लिगो तथा सभी विभक्तियों मे)

विशेषण– १. सख्यावाची (१ से २० तक) नामिक परिचय
२. संख्याक्रमवाची प्रथम से दशम तक सभी लिगों तथा विभक्तियो में
३ गुणवाची – संज्ञा शब्दो के अनुसार

कारक – कारको का परिचय एवं प्रयोग
क्रिया – पूर्व पठित धातुओं के अतिरिक्त
चर्, वश्, रक्ष दिश् ह कृष क्रुध कुप दुह स्निह नश कथ पूज क्षल भक्ष,
स्पृह्, के साथ ही साथ रम वन्द लभ सेव सह नी याच, रूच आदि आत्मनेपदी
धातुओ का भी प्रयोग

उपसर्ग– उपर्युक्त धातुओ के साथ अनु अव आ उत् प्र वि तथा सम्, उपसर्गो का प्रयोग
स्म का प्रयोग – भूतकाल का अर्थ सूचित करने के लिए लट लकार प्रथम पुरुष एक वचन
के साथ स्म का प्रयोग ।
अव्यय – अलम् (तृतीया के साथ) सत्वरम्, अनन्तरम पुर, पुरत, परित, उच्चै, अत, बहि,
वृथा, कदापि, धिक के प्रयोग
संधि – दीर्घ, गुण, वृद्धि तथा अयादि सन्धि
समास– तत्पुरुष समास का ज्ञान तथा मातृभाषा मे उनका विग्रह।

कक्षा – ८

संज्ञा – पूर्वकक्षाओं मे आयी हुई संज्ञाओं के अतिरिक्त [illegible] भवत् राजन् चन्द्रमस्
महत्, सरित्, वायु, एवम् मनस् (नपुंसकलिङ्ग)।

सर्वनाम – कक्षा ६ तथा ७ मे आए हुए सर्वनामों का पूर्ण अभ्यास।

विशेषण – कक्षा ६ तथा ७ वी में पठित संख्यावाची शब्दों के अतिरिक्त षष्टि, सप्तति, अशीति
नवति, शतम् सहस्रम् तथा लक्षम् के अतिरिक्त संख्याओं का क्रमिक प्रयोग एव ज्ञान
(एक से १०० तक)

कारक – कक्षा ६ वी तथा सातवी मे आए कारकों का पूर्ण अभ्यास तथा अडविकरादि के
विशिष्ट प्रयोग ।

क्रिया – कक्षा ६ वी तथा ७ वी मे आयी हुई धातुओं के लट, लोट, विधिलिंग, लड तथा लृट
लकारों में प्रयोग।

धातु – कूज्, जीव्, त्यज्, तुल्, पाल, क्रीड [illegible] कर्ण, कम्प, भाष, याच आदि
धातुओ के प्रयोग एव अभ्यास

उपसर्ग– कक्षा ६ वी तथा ७ वी मे आए हुए उपसर्गों के अतिरिक्त अनु, अव, आ, प्र, वि, अति
प्रति, परि उपसर्गों के प्रयोग एव अभ्यास।

प्रत्यय – क्त्वा, ल्यप्, तुमुन्, क्तवतु, तरप्, तमप् आदि प्रत्ययों का ज्ञान।

अव्यय – कक्षा ६ वी तथा ७ वी में आये हुए अव्ययों के अतिरिक्त यावत् तावत् यद्यपि,
तथापि तर्हि, परन्तु, नाना, दिवा आदि अव्ययों के प्रयोग ।

सन्धि – स्वर सन्धि, व्यञ्जन सन्धि तथा विसर्ग सन्धियों का विशिष्ट एव सामान्य परिचय प्रयोग
तथा अभ्यास।

समास – कर्मधारय, द्विगु द्वन्द, बहुव्रीहि तथा अव्ययीभाव समासों का सामान्य परिचय एव
मातृभाषा मे उनके विग्रह तथा अभ्यास।

अनौपचारिक शिक्षा व्यवस्था मे संस्कृत पाठ्यपुस्तक लेखको के लिए निर्देश।

१. विषय-वस्तु सरल एवं स्पष्ट होनी चाहिए।

२ विषय-वस्तु पाठ्यक्रम के अनुरूप होनी चाहिए।

३ पाठो का लेखन इस प्रकार हो कि विषय वस्तु रोचक हो। इसके साथ ही साथ इस बात का विशेष ध्यान रहे कि विषय-वस्तु उबाऊ एवं बोझिल कथमपि नही होनी चाहिए।

४. यथासम्भव हिन्दी के प्रचलित शब्दो के तत्सम रूप (शब्दो) का प्रयोग किया जाय ताकि बच्चो को समझने मे आसानी रहे।

५ आवश्यकतानुसार चित्रो का प्रयोग किया जाय जिससे विषय-वस्तु का समझना और अधिक सरल एवं रोचक बने।

६. पाठ अधिक बडे न हो।

७. यथासम्भव छोटे-छोटे पाठो की रचना की जाय।

८. कक्षा ६ के स्तर पर १५ से २० पाठ तक की ही पुस्तक होनी चाहिए।

९ कक्षा ७ वी के स्तर पर भी १६ से २० पाठ तक होने चाहिए।

१०. कक्षा ८ वी के स्तर पर कुल १५ से १८ पाठ तक ही हो।

११ यथावश्यक अभ्यासात्मिका पाठो के साथ अवश्य रखी जाय।

१२. याद करने रटने पर जोर न देना पड़े इस बात को ध्यान मे रखते हुए संस्कृत पाठो को विकसित किया जाय।

१३. प्रत्येक स्तर पर श्लोक पाठो की संख्या ५ से ज्यादा न होनी चाहिए।

१४. नाटक, कथा पाठो का आवश्यकता के अनुसार पाठ्यपुस्तक मे समावेश किया जाय। ३ पाठ नाटक तथा ४ पाठ कथात्मक होने चाहिए।

GUIDE LINES FOR AUTHOR TO DEVELOP TEACHERS HAND BOOK IN ART EDUCATION.

INTRODUCTION

Art education occupies a central place in curriculum at all stages of education, especially at middle stage. This curricular area provides immence opportunity to the learners to come closer to the life situations, interact with the environment and explore it through various art forms. The leaners attending in NFE centres are in constant touch with their immidiate environment but fail to express themselves due to lake of opportunities. It is this potential learning area that facilitates the learners to dentify their own abilites and area wise basic skills, suchas, observation, differentiation, classification, organisation, selection of fact and suitable tools and medium.

THE FOCUS

The main focus of art education is total development of personality of the learner. It should enable the learner to explore the environment through observations. It should sharpen his/her perception, observation of immediate physical and social environment so that whatever he/she does or think reflects a positive frame of mind. Hence criticality of this area at the middle level NFE curriculum assumes special significance.

OBJECTIVES OF ART EDUCATION AT UPPER PRIMARY NFE PROGRAMME

These are to:

- provide children the opportunity for manipulation, exploration and experimentations with different materials/ mediums in the context of local situations.
- provide children the apportunity for expressing freely their thoughts, emotions, feelings and fantasies.
- help children develop their intellectual, creative and aesthetic sensitivity through art activities.
- enable children to observe and explore their environment in their own characteristic way.
- help children enlarge their personal life and environment through participation in various art activities.
- develop a sense of satisfaction in his own creation as well as respect of others creative work.

The learners who join NFE Programme are daily confronted with some kind of situations which are seldon child friendly. The environment at home, in the community as well as in the work place, child tends to forget his/her child like simplisity and innocense. They hardly get apportunities to express their feeling and emotion. They tend to lose their identity. Art Education is a potential area that can provide them to explore themselves freely in a healthy supportive environment.

APPROACH OF ART EDUCATION

In the prevailing classroom situation Art symbolizes dictated and specified drawing activities with very limited opportunities for the learner to explore, observe, plan, design or manipulates materials and tools as per their perceptions and ideas. The predominant factor is following instructions rather than expressing one's ideas and feeling creatively. The real focus of art education on the other hand, is on helping the learners to grow up mentally, socially, emotionally through participation in a variety of art forms. Broadly there are two distinct types of art forms, namely Visual and Performing. This is deliberate effort to organise learning activities that accilerate positive, emotional, social and balanced development in the learners along with the psychomotar skills of accurate calculation, estimation, sense of proportion and harmony in whatever he/she perform in a specific situation. Art education curriculum has to be so designed that ther is natural integration between different curriculum areas. This is likely to facilitate learning of concepts, ideas and principles related to different learning areas of the curriculum.

Guide lines to select subject Matter

There is no fixed curricula or syllebus in Art Education as in other school subjects. Content or subject matter is drawn from day-to-day life experiences of children and from other school subject areas. Every child further evolves his/her own content while working in functional situation. However, there is need to provide wide variety of experiences to stimulate learner's thought process and develop their sensitivity towards environment. Instructor is expected to motivate learner through a variety of life situations. While developing hand book for NFE Instructor, author should take care of these aspects and give a region specific examples. Some of such examples are suggested below:

Examples from other curricular areas :

a) From Geography

- Patterens of residential huts, houses and markets, ponds, green/crop fields etc
- Regional, Agricultural activities.
- Industrial townships
- Forests, Jungles, Rivers, Mountains, plains, seas and land scapes.
- Weather and Seasons etc

History

- Historical places and
- Historical monuments
- Events of historical importance

Language

- Festivals
- Story illustration
- Portray of great people's life.

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Note : While suggesting and selecting subject matter from different subjects areas, illustrative materials from the text books should not be copied under any circumstances.

Examples from day-to-day life situations

- Local customes, conventions, traditions. Current events in & around.
- Festivals and fares (national, regional and local)
- Community gatherings of all type.
- Kite flying and races of various kind
- Games, played by kids, boys and girls (Rural/local games)
- Personal events
- Natural scences (urban/rural) hilly areas, desert areas
- Developmental activities in operation
- Seasons and Draught, floods, Cyclones, earth quecks,etc.
- Forests life and tribal life
- Animals and Animal fans
- Birds and their life scenes & related legends.
- Local occupations
- Work places (local) of various kinds from the community (Carpenter, blacksmeeth, farmer, potter etc.)
- Topics related to imaginative thinking, guessing, surprises for fantesiging in art activities.
- Motivational posters, charts with messages.
- Informative slogans (Environment, polution, health and hygenic principles)
- Illustrations - child marrige, social evils, superstitions etc.

Note : This list of activities is only suggestive and not an exhasted one. Therefore auther is advised to enrich it with region specific content while organising these activities. The Instructor should plan group activities, if possible group assignments and group projects.

Teaching-Learning Strategies

For creating effective teaching learning environment in Art Education various streteqies can be evolved. Some of these strategies are as follows:

MOTIVATION

Motivation is an important factor which should be understood by the teacher in its true sense and proceed to actual art activities. However, the main purpose of motivation in the process of doing art should be to stimulate awareness of the learner about his/her environment and make him/her feel that art activities are equally important as other other school activities.

In motivational process it is essential that teacher must involve himself/herself in the process to an extent that he/she becomes part of the process. Methods of motivation must be carefully decided by the instructor in accordance to the age level (development stages) and needs of the learners.

- Classroom discussion with proving questions using words such as;
  'Where' ? 'When' ?
  'What' ? 'How' ?
  Discussion with question answers should be such that children are moved to recall their own experiences related to the given topic. They do not remain passive listeners or giving passive answer like 'Yes' or 'No'
- Discussion should either be in continuation or follow up of visits to actual situations,
- Interactions with the special people from various walks of life/fields such as : Social, Political, Artists litracy and also from common life.

- Participation in various kinds of celebrations in every possible manner.

Note : Regarding spending time on motivation and doing Art activities, there should not be any rigidity. Time given to motivation should just be enough to start the creative process and not dragged to the level of bordom.

Though teacher is the best judge to decide the time for motivation. It should not exceed 10 to 15 minitus.

Role of the Teacher

Role of the teacher in the creative process is that of a companion, a friedd and a facilitator:

- Teacher should not carry any corrections on the work of Arts of learners.
- Teacher should not give discouraging/negative remarks on their works of arts

Method of teaching

- Indirect method of teaching technique should be adopted so that learner learn through his or her own discovery process.
- Materials for the planned activity should be readily available to every child by the time they are motivated to start work.

Evaluation in Art Education

Generally in the system of evaluation children's Art work is graded or given marks. This only leads to comparision of children with each other. But in Educational process it goes against the spirit of Art Edu. It also contradict the creative process of education in general and in art in particular because nurturing creativity and aesthetic sensibility are the most important objectives of education as well as of Art.

In the process of creative education each individual's individuality should be respected and nartured for its enhancement. Since every individual perceives the world in its own way and gives its interpertation whether it is in forms of Art, language or any other mean of expression. Comparision does not allow this process because it involves rejection and lowering of one from the other. The learner in this process get discouraged which may hamper their development. Again children may also fall pray to evolve unethical means to come at par with others.

Art experience is very much subjective. Evaluating subjectivity in terms of grading and competition thus becomes self defeating exercise.

Further, each child grows and develops at his/her own pace and level of learning as per his/her enherent abalities.

The best method of Evaluation in Art, therefore, could be suggested as a descriptive one in terms of growth and quality achievement for the reference of teacher himself. The needs to devise proper method to try to bring the child at par to the proximity of his (child's) own level of development.

Some of the suggestive criteria for descriptive evaluation in Art Education are given below which should be recorded by the teacher.

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1. Child's increasing awareness of his environment and the means of Art processes and the help rendered for this purpose by the teacher.

2. Keep in mind the developmental stage of the child as an individual as well as of his age level.

3. Child's own intiative to search/. more and more information personally and its impact on his creative expression. In other words 'Process Evaluation' should be given weitage than 'Product Evaluation'.

4. Child's growing interest in different modes and means of expression both verbal and non-verbal through a varity of media, materials and techniques.

5. Child's growing interest in improvisation and new ideas. Actual behaviour of the learner should be evaluated . - in various situations to access their creative and aesthetic development.

6. Child's growing interest in colours, forms and space organisation.

7. Child's interst in projecting the self and suplementing it with the group (a solialisation process very essential for NFE learner because of their back grounds).

8. Child's own version of liking and disliking of his Art performance and other responses should be recorded (self Evaluation and Peer group evaluation).

9. Child's interest in keeping the Art materials, instruments and products in an orderly way for self discipline as well as for hygenic habit formation.

Group Evaluation specially for group art activities should be encouraged.

Whereas possible community level evaluation may be encouraged through urban and rural fare during special occasion at the local and district level.

INTRODUCTION

HEALTH AND PHYSICAL EDUCATION

Health status of individual and that of a community are one of the most important indicators of the socio-economic development of any nation. Health, therefore should be the concern of individual, parents, community and the Government. Therefore the measures for the promotion of Health and Protection against diseases must be emphasized. In view of this Health and Physical Education particulary in the curriculum for NFE learners at various stages assumes a great significance.

Health and physical Education should aim at enabling the child for the harmonious development of body and mind is essential for good health. If the children are physically fit , emotionally balanced, mentally alert they will become more responsible for their action and have more human approach towards life. The selection of course content of Health Education for NFE should keep in mind the above reality. Health Education may be organised under the following illustrative broad areas.

1. Personal Health and Hygiene
2. Environment
3. Food and Nutrition
4. Family life and Reproductive Health
5. Communicable diseases
6. Tabacco and Alcohol misuse
7. Safety education

The curricuum in physical Education includes Games, sports, yogas and Asanas. The instructor should develop the programme within the facilities available locally. Games like kho-kho, Kabadi, Races, running, walking can be organised without any equipment. Games and sports evoke leadership quality, team spirit, co-operation and healthy competition. Practice of yoga helps in concentration of mind, flexibility of body and physiologically functioning of internal organs.

This is all the more important for NFE learners as they are coming from disadvantaged and deprived section of the society. It creates awareness by improving the health status of the family, community and nation.

Since the system of non-formal education is not a structured as a school system more efforts are needed on the part of the instructors to use conventional strategies of transaction. While conveying the various messages of health education, more of demonstration and use of charts, posters and direct interaction with the learners. If possible hearby schools and students also can be involved in helping the non-formal learners for achieving knowledge and awareness related to these areas. Whatever the printed material is used, that should have minimum print words and should be of more illustrative nature, community, nearby health centre, social worker and NGO's should be involved.

GENERAL OBJECTIVES

1. HEALTH EDUCATION

To bring the overall awareness of values and inculcate the desired habits and attitudes towards health and to raise the health status of the Students. (Unit wise objective listed in the detailed plan)

2. PHYSICAL EDUCATION

The National plan of physical Education and Recreation states that "Physical Education should aim at making the Child physically, mentally, and emotionally fit and developing his personal and social qualities which will help him to live happily with others and build him into a good Citizen". For this we have to equip the child with knowledge, experience and skill in fundamental processes so that he may live his life with courage and confidence.

BROAD CONTENT-FOOD & NUTRITION

KNOWLEDGE / OBJECTIVES	SUB CONTENT	TEACHER/LEARNER ACTIVITIES	REMARKS
(1) To understand the concept of nutrients, their value in daily diet and to select appropriate food items in order to prepare a balanced diet.	(1) Balanced Diet.	(1) Identification and use of locally available nutritions food.	Health and physical education as a subject. Integration in subject areas like Science, Social science and language. Through Co-curricular activities. Supplementary reader. Special emphasis on hand washink
(2) To explain the causes of deficiency diseases and establish their relationship with deficiency.	(2) Functions of nutrients and their role in promoting health. - Under Nutrition and overnutrition (All defeciency Diseases) - Prevention of defeciency diseases.	(2) Posters and Charts (Balance Diet) - Group discussion - Role play - Survey - Flip Charts - Demonstration	
(3) To learn about various techniques and procedures of food preservation and storages and rules of food sanitation.	(3) Food Adulteration.	(3) Regular check up of the learners regarding hygienic habits. - Emphasis on locally, easily available tutritive food its preparation and use.	
(4) To develop regular habits of washing hands before taking food, not wasting food; cleaning eating place before and after food.	(4) Traditional Food Beliefs and practides. (Positive, Negative food related Taboos) - Proper food storage and avoiding food wastage.	(4) Inter-action with the learners. - Methods of preservation, demonstration.	

OBJECTIVES	BROAD CONTENT	SUBCONTENT	ACTIVITIES	REMARKS
To help the learners to know about the various communicable diseases; their causes, prevention and cure.	Communicable Diseases	- Types of communicable diseases, contagious	- Procurement of Materials from different sources interaction with Health wokkers.	- Lectures, talk by Doctors
		Water borne diseases Cholera, Diahrrhoea, Typhoid, Jaundice, Hepatitis B.		Health club for the children & community
		- Respiratory disorder	- Posters	- Excursion trip
		Air borne, vector, Asthma, cough & cold vector	- Charts - Flash cards	- Special Focus on local diseases.
		Malaria, Dengue, Filaria- worm infestation causes & prevention	- Taking the children to Health Mela etc.	- Visit to Hospitals, Health centres e.g. clinic for blood test etc.
		- PHC (Primary Health centres),		
		- Treatment		

OBJECTIVE	BROAD CONTENT	SUB CONTENT	ACTIVITIES	REMARKS
To develop proper understanding of the process of growing and developing positive attitude, responsible behaviour towards sex related issues.	Family life and Reproductive health.	- Physical, emotional & psychological changes during adolescence. - Conception & pregnancy - Pre and post natal care, immunisation. - Consequences of early fertility control, pregnancy, nutritious diet during pregnancy and lactation. - Responsible sexual behaviour and Assertive skills for avoiding sexual abuse.	Question box Role-play Quiz Case Study Posters Rallies Slogoan	- Interaction with parents - Films shows - Special attention to Girl child
To make them aware and understand about HIV/AIDS and STDs and their modes of transmission. Develop responsible behaviour. Clarify Myths & Misconceptions.	HIV/AIDS/STD's	- What is HIV/AIDs/STD - Modes of transmission (Unsafe sex, blood, Mother to child, AIDs has not cure, Prevention from HIV, AIDs, STD Hepatitis-B, Counselling and Role of family, Myths & Misconceptions related to spread of AIDs.	- Showing films - Role play - Story telling - Interaction with Community members, Parents, - Care for Girls child etc.	- Sensitise community, Parents & Children about HIV positive. - Prevention is only cure for AIDs.

Objectives	Broad Content	Sub Content	Activities	Remarks
1. To enable the learner to know the problem of drug abuse and its implications.	Drug Abuse	- Drug Abuse, Types of drugs - Smoking of Cigaretta, bidi, huka etc. chewing of Tobacco in any form e.g. Pan Zarda, Gutka, Khaini, Pan Masala etc. - Drinking of Alcohol including local brand(affecting personal and social health) e.g. Tadi, Haria etc. - Harmful affect of drug abuse. Social and Psychological consequences of drugs abuse.	Reading Material Role play Group discussion Audiovisual puppets	For community awareness street play and prabhat pheri is effective in collaboration with NGOs, community and school.
2. To help them to understand prevention and rehabilitation of drug addicts.	Rehabilitation of Drug abusers	- Ways of drug abuse prevention - Myths and misconceptions related to drug abuse(i.e. relieves stress, gives pleasure, creative, sense of elation etc.) - Signs & Symptoms of drug abusers and how to identify them. - How to say 'No' to drugs.	Posters and charts, story telling, case study, coloured illustrations, role play, audiovisual, slogan competition, [illegible] etc.	
3. To help develop appropriate attitude towards drugs and assertive skills against drug abuse.		- Roles and Responsibility and sympathetic attitude of family members of drug-abusers. - Awareness about Rehabilitation centres	Visit to Rehabilitation centres, story telling, Role play, Play through puppets etc.	

Objectives	Broad content	Sub content	Teacher/Learner/Activity	Remarks
To help the child develop an understanding of safety measures and to develop the skills of providing first aid & homesafety.	Safety education	a) Safety at home, School, Play ground and community. b) Road Safety c) First Aid	Demonstration Talk by teacher/Doctor/Health Worker. Posters and Charts. Project assignment, Debates, etc.	May be integrated in S. Studies, Science and Language.
To make the learners aware about the Consumers rights, laws protecting Consumer's interest.	Consumer Education	- Through Media News paper, T.V. - How to differentiate Good advertisent and bad. - Consumer rights and protection. - Rules and Laws regarding consumer protection. - Medicine and food adulteration. - Consumer Forum. - Co-operative Society.	Charts, Posters, Talk, Skit. Group discussion Slogan Demonstration Painting comp. elocution test. Awareness compaign SLOGAN like — 'Reuse of Refuse'	Advertisement Gimmits.

Objectives	Broad Content	Sub Content	Teacher/Learner Activities	Remarks
To identify personal & community health practices conducive for healthy environment in the home, community and village.	Health and Hygience	Personal Hygiene - Cleanliness of body parts including genital hygiene -Good Habbits Environment Health - Clean Surroundings: (Home, Neighbourhood, School) - Disposal of waste - Plantation of trees - Causes of pollution (a) Air (b) Water (c) Land (d) Noise Mental Health - Cooperation, Sharing, Caring, Spirit of Healthy Competition.	Discussion, Demonstration, Cleanliness, Essay/Slogan/ Drawing Competition, Sanitation drive Puppetry Magic Show Film Shows, Outdoor visit Physical exercise, Games and Sports Yoga Role play Extra curricular activities Organising various competitions	
	Yoga:	Following Asanas can be done easily Padmasan Bajrasan Siddhasan Bhujangasan Chakrasan Dhanusasan Tadasan Yogmudra		

Physical Education

Objectives	Major content areas	Sub-content	Teachers/Learner Activities	Remarks
(1) To help the learners to organise Games & Sports which promote healthy & efficient organic system of the body.	GAMES & SPORTS	Games/Rural, Urban (1) Cat & rat (2) Snatch the hancher-chief (3) Find the Leader (4) Musical Chair (5) Come with me	These are the Games which will require less materials. These games may be organised as a part of the other learning areas. Eg. Games like chess, Carrem may be procured from NGO's or community help.	The centre should have linkage with the nearby school, Community and V.C. Members to organise various games and sports event. All the games listed in the area of sub-content are to be organise to achieve objectives.
(2) To help the learners to develop the attitudes of co-operation & good sportmanship for the overall development of personality.		**Other Games** (1) Kabadi (2) Kho-kho (3) Wrestling (4) Hand-ball (5) Chess (6) Carrem (7) Hockey	Some competitions may be organised on some important days and events like Balmela, Children's Day, Independence Day, Republic Day etc.	
(3) To help the learners to develop a sense of patriotism self-reliance.		**SPORTS/ATHLETICS** (1) Races (Relay, cross country, walk) (2) Jumps (long jump, High jump) (3) Throws (shot put) (4) Gymnastics (Floor exercise, Rolling) (5) Free-hand Exercise (6) Mass PT, Drill etc.	Mass P.T. & Drill may be made regular activity of the centre.	
(4) To help the learners to develop the ability to face stress and strain of life.			Some Asanas may be performed daily, but without any stress & strain under the supervision of Insturctor	
(5) To help the learners to develop imagination & creativity through these activities.		**YOGA** Yam Niyam Asanas (Padmasan, Vajrasan, Siddhasan, Charasan, Dhanurasan, Jadasan		

EVALUATION

Evaluation in Health & Physical Education should be based on learner's individual capacity performance level. Since the purpose of evaluation is to assess the progress of learner on a countinuum. The assessment should be comprehensive continuous in a systematic manner. Such scheme of evaluation will measure the multi-dimensional progress of learner in cognitive, psycho-motor and effective domain. It should be born in mind that the purpose of evaluation is to help the learner to achieve the desired outcome on individual basis. Evaluation should provide feedback diagnosing learning difficulties and for designing remedial programme for the people and also modifying the teaching-learning processes/strategies. This cardinal principle of evaluating other subject areas holds free for Health & Physical Education also. Since behaviour modification is the main aim of evaluating people progress, tools, techniques & procedures for evaluating Health & Physical Education activities are as follows :

1) The Evaluation should be based on the objectives & competencies identify for Health & Physical Education.

2) The Evaluation should be based on the day to day observations by the Instructor. It could be done while conducting/designing, learning activities as well as the final product of performance by the learners. The emphasis should be on the acquisition of knowledge, understanding, application & scills.

3) A variety of tools, tests and techniques should be used for this purpose. The most common techniques such as oral & written tests, performance based tests should be supported by such as, observation check tests, behaviour telly-chart, anecdotal account and other techniques could be used for long-term assessment for change in behaviour pattern.

WORK EXPERIENCE

INTRODUCTION

Work experience is a concious effort to bridge the gap between manual & intellectual work, thus, giving a meaning and purpose to the learning process. Work experience not only develops love for manual work and a sense of dignity of labour, but also promotes the creative faculties of the child. It inculcates desirable social attitudes and qualities among pupils and develops capabilities to achieve productive efficiency. It helps the learner to identify their day-to-day needs and develop self reliance and confidence in handling situations. It acquaints them with productive activities going on in the society, the principles and processes involved in work and the tools and materials used for production. Thus, the principal aim of work-experience is to prepare children for meeting the challanges of life situation. This is expected to help in development of desired personal, social and vocational skills in the learners.

In the context of NFE, work-experience activities asume special significance due to the special situations of the learners life. The children attending NFE Centres are engage in various economic activities.

From the very childhood they are exposed to use different tools and materials. They have fairly good knowledge of, how to manipulate tools for producing objects of daily use. Facing problem situations, making decision about the techniques and processes is a part of their daily life. Their vocabulory in relation to material, tools and processes are quite rich. In most of the cases they are acquired such skills by imitation and instructions given by employer, at times they also make efforts to try out and explore new methods and techniques. Moreover their experiences are limited to a specific context only. Since they have acquired this vocabulary at oral level,

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they sometimes use wrong vocabulary while naming a tool, a process or a product. Their calculation and measurement are usually conventional methods. There is need for systamatisation and upgradation of skills already acquired by them through work place experience. While preparing curriculum for work experience programme above mentioned should be given due consideration. There is need to focus on improvement of skills specially the life skills. That the learners will be able to use their immediate work situations of life. In other words, flexibility and relevance should be the basic guiding principle in the formulation of curriculum and material. The competencies listed below are to be developed in a graded way. While some of the competencies may be initiated from the 1st year of middle level programme other may be introduced from IInd year level onwards. Again some of the competencies will continue throughout the middle level stage. Work-Experience activities will be woven around some selected projects and regular work practice activities.

General objectives

They are to:

(1) provide learning opportunities to learners to utilize their acquired knowledge and skill in relation to different work situations in home, planning centre and community.

(2) . acquire improved skills and technique for effective manipulation of tools & materials.

(3) . provide adequate learning experience for learners smooth entry into productive work situations in future.

(4) prepare the learners for their interest and meaningful paiticipation in community development programmes and activities.

Specific competencies

Some of the specific competencies that are to be developed in learners through work-experience activities are as under :-

Competencies for Work Experience

Ist Year	IInd Year	III Year
(1) The learners will be able to identify different work situations in the community & their functioning.	(1) The learners will be able to identify different work situations in the community & their functioning.	(1) The learners will be able to identfy different work situations in the community & their functioning.
(2) -	(2) Find out different sources of information.	(2) Find out different sources of information.
(3) -	(3) Select proper tools for preparing objects related to basic need areas.	(3) Select proper tools for preparing objects related to basic need areas.
(4) -	(4) Adopt suitable strategies to perform the given tasks following cost-effective time effective way.	(4) Adopt suitable strategies to perform the given tasks following cost-effective time effective way.
(5) -	(5) Differentiate qualities in material	(5) Differentiate qualities in material.
(6) -	(6) Plan activities systematically keeping in view the target.	(6) Plan activities systematically keeping in view the target.
(7) -	(7) Adopt safety measures in handling tools.	(7) Adopt safety measures in handling tools.
(8) Decide the correct place for keeping the tools & material and adopts proper postures for handling the tools & material to be used.	(8) Decide the correct place for keeping the tools & material and adopts proper postures for handling the tools & material to be used.	(8) Decide the correct place for keeping the tools & material and adopts proper postures for handling the tools & material to be used.

Ist Year	IInd Year	IIIrd Year
(9) Measure & Calculate accurately objects and materials.	(9) Measure & Calculate accurately objects and materials.	(9) Measure & Calculate accurately objects and materials.
(10) Observe minutely process, objects & situations related to work place.	(10) Observe minutely process, objects & situations related to work place.	(10) Observe minutely process, objects & situations related to work place.
(11) -	(11) Differentiate between good craftmanship & bad craftmanships.	(11) Differentiate between good craftmanship and bad craftmanships.
(12) -	(12) Evolve innovative bechniques in handling the tasks	(12) Evolve innovative techniques in handling the tasks.
(13) -	(13) Differentiate cause & effect relationship between events.	(13) Differentiate cause & effect relationship between events.
(14) -	(14) Shows keenness in doing a work perfectly.	(14) Shows keenness in doing a work perfectly.
(15) Do the work confidently.	(15) Do the work confidently.	(15) Do the work confidently.
(16) Share tools & materials with team members	(16) Share tools & materials with team members	(16) Share tools & materials with team members
(17) -	(17) Show eagerness to complete a task within specified time.	(17) Show eagerness to complete a task within specified time.
(18) Keeps records accurately.	(18) Keeps records accurately.	(18) Keeps records accurately.
(19) Learn from others.	(19) Learn from others.	(19) Learn from others.
(20) Show inclination towards dignity of labour.	(20) Show inclination towards dignity of labour.	(20) Show inclination towards dignity of labour.
(21) Demonstrate sourcefulness in handling work situation.	(21) Demonstrate sourcefulness in handling work situation.	(21) Demonstrate sourcefulness in handling work situation.
(22) -	(22) Mobilize & utilize local resources.	(22) Mobilise & utilize local resources.

Ist Year	IInd Year	IIIrd Year
(23) Offer help to other coworkers at times of necessity.	(23) Offer help to other co-workers at times of necessity.	(23) Offer help to other Co-workers at times of necessity.
(24) Adjust appropriately in the changing work situations.	(24) Adjust appropriately in the changing work situations.	(24) Adjust appropriately in the changing work situations.
(25) -	(25) Follow suggestions intelligently.	(25) Follow suggestions intelligently.
(26) Perform the given task systematecally	(26) Perform the given task systematecally.	(26) Perform the given task systematecally.
(27) -	(27) Repair minor the tools used in work situations.	(27) Repair minor the tools used in work situations.
(28) -	(28) Acquire life skills in attending minor repairs related to household & work place activities.	(28) Acquire life skills in attending minorx repairs related to household & work place activities.
(29) Maintain healthy living practice at home, sorrounding, work situations.	(29) Maintain healthly living practice at home, sorrounding, work situations.	(29) Maintain healthly living practice at home, sorrounding, work situations.
(30) Locate locally available materials.	(30) Locate locally available materials.	(30) Locate locally available materials.
(31) Maintain personal cleanlines.	(31). Maintain personal cleanlines.	(31) Maintain personal cleanlines.
(32) -	(32) Generate community participation in different work situations.	(32) Generate community participation in different work situations.
(33) -	(33) Participate meaningfully in the event of natural calamities & community concern.	(33) Participate meaningfully in the event of natural calamities & community concern.

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Ist Year	IInd Year	IIIrd Year
(34) Participate joyfully in cultural activities of the community.	(34) Participate joyfully in cultural activities of the community.	(34) Participate joyfully in cultural activities of the community.
(35) -	(35) -	(35) Acquire enterpreneurship spirit in planning activities on the basis of availabl resources in a specific context.

12. Develop guide material in a way so as to expose the learners with available sources of informations.

13. While preparing the materials give due focus for utilisation of community resources both human & physical.

14. While developing different types of work experience material lay stress upon sensitivity to health & hygienic living.

15. Give emphasis on sharing of responsibility, concern for co-workers & working together through the materials.

16. Lay stress on social cohesion, sharing of tools & materials with others & the sense of pride in work.

17. For materials of Instructors give emphasis on alternative strategy for utilisation of local resources namely local artists and experienced persons from agriculture, medical, rural & Urban development areas, Voluntary organisations with success story.

18. Give special emphasis on activities like decision making, adoption of alternative strategies, meeting crisis situations with confidence etc. while developing activity lessons.

19. Lay due stress on learners acquiring exactness in measurement and calculation, design & materials for minute observation of objects & events through work experience activities.

20. While selecting criteria for activities give adequate stress on coverage of work situations both in rural, semi-rural, industrial and urban set-up, namely, agricultural, home/family industry, small industry related activities, day-to-day simple maintainance & repair activities etc.

21. While designing activities give due importance to learner's personal experience, background & areas of interest.

22. Design work experience material in a way so as to expose the learners with latest development related to various activities & meaningful participation in todays & future times to come.

23. Develop material profusely illustrated & visual based.

24. Make use of simple and direct approach based on language.

25. While preparing the materials lay due emphasis to promotion of sense of identity & national integration in regard to different cultural diversities & traditional social practices.

26. In transaction of teaching learning activities in work-experience programme plan well in time natural integration with maths, science, language & social science lessons.

27. Give specific hints in the material for framing the daily time table to ensure natural integration of different learning areas. Provide enough examples in the material from various environmental situations regarding work experience activities pertaining through six basic areas.

28. Provide a comprehensive list of activities in relation to rural, semi-urban & urban areas in a tabular form in the end of the book.

29. Provide a chart on various tools related to various types of work activities so that the instructor is able to guide the learners properly.

30. Suggest some strategies for pupil evaluation in work experience activities in the guide book. Give due emphasis on process, product and personality development aspects.

31. Lay stress upon to handle tools scientifically keeping in mind the safety measures.

Guidelines for the development of Textual material in the area of Work Experience

1. Develop Work Experience material in a way to reduce the gap between the world of work & world of academic activities.
2. Present the material in a way that enable integration of the basic learning skills with other areas of learning of curriculum.
3. Present work experience material to ensure reinforcement of basic life skills acquired through participation in the activities related to six basic need areas namely - Food, Shelter, Clothing, recreational activities, cleanliness & Hygien and community service activities.
4. While selecting specific activity contextuality and relevance for the learners need to be duly emphasised.
5. Highlight the stratigies for development of scientific attitude, and temper in the learners in the material.

   It needs to be emphasised that work experience programme provides adequate scope for reinforcement of scientific principles & concepts covered in different science and social science subjects.
6. Develop material in such a way that there is emphasis on flexibility & dynamicity.
7. Provide two types of activities to the learners namely for regular practice and project activities for a specific period of time. The approach should be to generate creativity & resourcefulness with regard to identification, selection of tools & materials etc.
8. Give due emphasis on the selection of activities, use of waste material, low cost, no cost materials etc.
9. Put emphasis on functionality & attainability of life skill related to six basic need areas.
10. Select activities for IIrd & IIIrd year so as to enable the learners to acquire planning skills in relation to project activities.

The Last Page

To conclude these guidelines are only suggestive. These provide broad principles. These are to be operationalise scientifically and effectively keeping in view the learner background, their levels, learning set up, environmental situation, teachers background and available resources.

While developing teaching-learning materials, appropriate decision making at the local level and proper planning by the writer are very important. There is need to concretise these guidelines keeping in view the specific context and learning set up.

It is essential to organise orientation programme for the writers, for transacting these into meaningfull activities.

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